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CHAMBERS'S

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WILLIAM AND ROBERT CHAMBERS,

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VOLUME I.

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1842.

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In the present publication, an effort has been made to place a work of the character of an encyclopædia within the reach of the working-classes and those next above them.

The plan on which the work is formed is to select only the subjects on which it is important that the mass in question should be informed. The minutiæ of biography and topography, scientific technicalities, and other matters to which there may be only need for occasional reference, are dismissed, and thus usually fills up the greater part of an encyclopædia is at once got quit of. There only remains a series of articles on the most important branches of science, physical, mathematical, and moral, natural history, political history, geography, and literature, together with a few miscellaneous papers, which seem specially called for by peculiar circumstances affecting the British people. Thus all is given which, if studied and received into the mind, would make an individual of those classes a *well-informed man*; while, with few exceptions, only that is omitted which is not needed as part of the standing knowledge of any person whatever, unless those for whom it may have a professional or local interest. It will be understood, then, that THE PENNY CYCLOPÆDIA FOR THE PEOPLE" is not meant as an encyclopædia unfailing in reference for all moments of human knowledge, but as an encyclopædia including such knowledge only as tends to improve every mind possessing it—such knowledge as expands, liberates, and fertilises—with the addition only of a very few articles of which the interest and value are of a more limited nature. The ruling principle has been to give what may be expected to prove the means of *self-education* to all ranks of the humbler classes of society as are debarred from the receipt of knowledge in more favourable circumstances.

It would have been quite possible to produce such a work, unexceptionable as far as the selection and treatment of subjects were concerned, but which should nevertheless have reached few of those for whom it is designed. Such would have necessarily been the effect of an unsuitable form and price. Here, as in the case of their JOURNAL, the editors found it necessary to disregard all common ideas as to what constitutes dignity in the externals of books. In reality, these ideas are merely relative, and there is not one sane and solid argument which could be used in support of them, however serviceable they may be in connecting puerile wits with matter of silly ridicule. But, whatever they were, it was necessary, if the CYCLOPÆDIA FOR THE PEOPLE was ever to reach its destination, that it should be published in detached parts, and those bearing a very small price. The plan accordingly followed has proved remarkably successful, the average sale of the various numbers of the work having been, throughout the first year, nearly [illegible] thousand! It is to be hoped that it may thus have proved the means of carrying a knowledge of things into regions where such knowledge would have never, but for this or similar undertakings, find its way. The editors are at the same time deeply sensible that even this work, great as its success has been, must leave a vast substratum of society totally untouched. At the very best, it addresses itself only to those who can read. The public must be reminded that there are great multitudes who do not share in this accomplishment, and for whom, of course, popular encyclopædias exist as much in vain as books for the blind. And not only is this great class forbidden all benefit from such works, but there is probably greater multitudes who, though able to read, are, from want of intellectual cultivation, totally void of all aptitude for knowledge, as to be nearly as little likely to profit from the stores here placed within their reach as those who never yet learned the alphabet. All attempts of this kind to send down light into the lower regions of society, must more or less fail from these causes—causes which will, of course, continue to exist, till we shall see an end put to the great disgrace of our age, the want of a national system of education.

Chiswick, *November* 3, 1841.

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...nomy (from the Greek, *astron*, a star, and *nomos*, a ...), comprehensively, that science which explains ... and motions of the bodies filling infinite ..., including our own globe in its character of a ... of the number of the solar system. The science ... divided into two departments—1. *Descriptive* ..., or an account of the systems of bodies ... 2. *Mathematical Astronomy*, or an explana... of the physical laws which have produced and ... system the arrangements of the heavenly bodies, ... of the various results of the arrangement and ... of these bodies. *Uranography* is a subordi... department of the science, presenting an account ... arrangements which have been made by astro... for delineating the starry heavens, and working ... mathematical problems of which they are the ...

DESCRIPTIVE ASTRONOMY.

... early ideas of mankind respecting the objects ... by astronomy, proceeded upon appearances ... the uninstructed eye placed before them, and ... far from being true. It was supposed that the ... was, as it seems, a level plain, or, at the most, a ... curve, with an outer sphere, forming the heavens, ... seemed it rose in the twenty-four hours. ... philosophers deemed the earth the central and ... important object in the system, and regarded the ... lesser bodies, the sun, moon, planets, and stars, as ... relatively small objects, fixed in different crystal ..., each of which observed its own laws of revo... according to the apparent motions of the bodies ... in it. It was not till after much study and inves... that even the most enlightened minds arrived ... knowledge of the truth; nor was it for some time ... that the idea of the earth not being in the centre ... system, or any thing but a small and subordinate ... of it, was generally admitted. There is no room ... to trace all the steps by which the truth was as... ..., or to argue the uninstructed mind out of all ... it can in most concisive. We begin with what is usually called the Solar System—that is, the particular solar system to which our earth belongs.

THE SOLAR SYSTEM.

The *solar system*, so named from *sol* (Latin), the sun, consists of the sun in the centre, twenty-nine planets, and an unknown number of bodies named comets. The word planet is from the Greek, *planao*, to wander, because the few such bodies known to the ancients were chiefly remarkable in their eyes on account of their constantly shifting their places with reference to the other luminaries of the sky. Comets are so named from *coma* (Latin), a head of hair, because they seem to consist of one bright spot, and a long brush streaming from behind it.

Planets.—Eleven of the planets are called *primary*, because they move directly around the sun, and eighteen *secondary*, because they move round primary planets. The secondary planets are also denominated satellites, from *satellis* (Latin), originally signifying a life guardsman, but, by a wider application, one who follows and serves another. Only four of the primary planets have satellites.

The primary planets are Mercury, Venus, the Earth, Mars, Vesta, Ceres, Pallas, Juno, Jupiter, Saturn, and Herschel, or Uranus. Most of these names are derived from the fabulous divinities of ancient Greece. The Earth has one satellite, the Moon; Jupiter has four; Saturn, seven; and Uranus is supposed to have six.

The planets move round the sun on nearly one level or plane, corresponding with the centre of his body, and in one direction, from west to east. The secondary planets, in like manner, move in planes round the centres of their primaries, and in the same direction, from west to east. These are denominated revolutionary motions; and it is to be observed that they are double in the case of the satellites, which have at once a revolution round the primary, and a revolution, in company with the primary, round the sun. The path described by a planet in its revolution is called its

moving round its axis in 25 days. When viewed through a telescope, the surface appears intensely bright and luminous, as if giving out both heat and light to the surrounding planets. But on this surface there occasionally appear dark spots, generally surrounded with a border of less dark appearance; some of which spots have been calculated to be no less than 45,000 miles in breadth, or nearly twice as much as the circumference of the earth. The region of the sun's body on which the spots appear, is confined to a broad space engirdling his centre. They are sometimes observed to come into sight at his western limb, to pass across his body in the course of twelve or thirteen days, and then disappear. They are sometimes observed to contract with great rapidity, and disappear like something melted and absorbed into a boiling fluid. Upon the bright parts of the sun's body there are also sometimes observed streaks of unusual brightness, as if produced by the ridges of an agitated and luminous fluid. It has been surmised, that the sun is a dark b veloped in an atmosphere calculated for giving and light, and that the spots are produced b breaks or openings in that atmosphere, shov dark mass within. Though so much larger t earth, the matter of the sun is of only about a the density or compactness of that of our pl little more than the density of water.

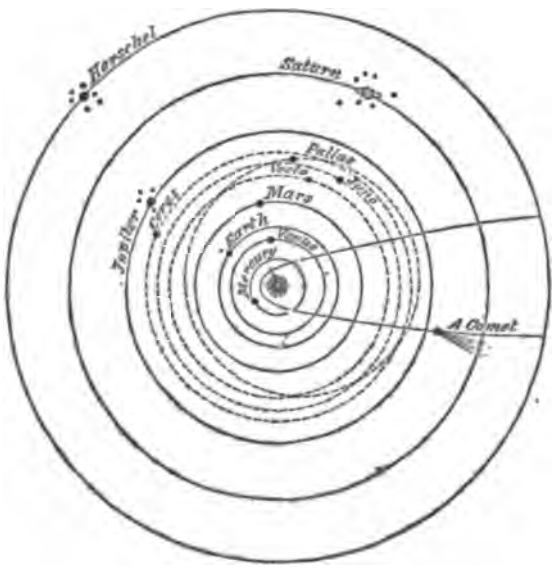
The sun is surrounded to a great distance b light, or luminous matter of extreme thinness like a lens or magnifying-glass, the body of being in the centre, and the luminous matter e: in the plane of the planetary revolutions, till nates in a point. At particular seasons, and in able states of the atmosphere, it may be o before sunrise or after sunset, in the form o pointing obliquely above the place where th either about to appear or which he has just le termed the *Zodiacal Light*.

Rate of movment of the Planets in miles per minute.

Mercury,	1796
Venus,	1334
Earth,	11[illegible]
Mars,	903
Vesta,	903
Juno,	903
Ceres,	903
Pallas,	903
Jupiter,	490
Saturn,	363
Uranus,	255
Moon,	38

Densities of Planets compared with water, which is considered as 1.

The Sun,	1, 9-13ths.
Mercury,	9, 1-6th.
Venus,	5, 11-15ths.
Earth,	4, ½
Mars,	3, 2-7ths.
Jupiter,	1, 1-94th.
Saturn,	0, 13-32ds.
Uranus,	0, 99-100ths.



The Solar System.

Inclinations of the Ecliptic

Mercury	7° 0′ 9″
Venus,	3° 23′ 28″
Mars,	1° 51′ 0″
Vesta,	7° 8′ 9″
Juno,	13° 4′ 9″
Ceres,	10° 37′ 25′
Pallas,	34° 34′ 55
Jupiter	1° 18′ 51″
Saturn,	2° 29′ 35
Uranus	0° 46′ 29″

Mercury, the nearest planet to the sun, is a globe of about 3140 miles in diameter, rotating on its axis in 24 hours and 5½ minutes, and revolving round the central luminary, at a distance of 37,000,000 of miles, in 88 days. From the earth it can only be seen occasionally in the morning or evening, as it never rises before, or sets after the sun, at a greater distance of time than 1 hour and 50 minutes. It appears to the naked eye as a small and brilliant star, but when observed through a telescope, is horned like the moon, because we only see a part of the surface which the sun is illuminating. Mountains of great height have been observed on the surface of this planet, particularly in its lower or southern hemisphere. One has been calculated at 10½ miles in height, being about eight times higher, in proportion to the bulk of the planet, than the loftiest mountains upon earth. The matter of Mercury is of much greater density than that of the earth, equalling lead in weight; so that a human being placed upon its surface would be so strongly drawn towards the ground as scarcely to be able to crawl.

Venus is a globe of about 7800 miles in diameter, or nearly the size of the earth, rotating on its axis in 23 hours, 21 minutes, and 19 seconds, and revolving round the sun, at the distance of 68,000,000 of miles, in 225

Like Mercury, it is visible to an observer on the [illegible] *only in the morning and evening, but for a greater* [illegible] *of time before sunrise and after sunset. It appears most brilliant and beautiful of all the planetary* and stellar bodies, occasionally giving so much to produce a sensible shadow. Observed throu scope, it appears horned, on account of our se a part of its luminous surface. The illumin of Venus occasionally presents slight spots. It ascertained that its surface is very unequal, the mountains being in the southern hemisphere, case of both Mercury and the Earth. The high tains in Venus range between 10 and 22 mil tude. The planet is also enveloped in an atr like that by which animal and vegetable life ported on earth; and it has consequently a Venus performs its revolution round the su days. Mercury and Venus have been termed ferior Planets, as being placed within the orl Earth.

The Earth, the third planet in order, and o smaller size, though not the smallest, is imp us, as the theatre on which our race have be to "live, move, and have their being." It is 7 in mean diameter, rotating on its axis in 24 h mean distance of 95,000,000 of miles from round which it revolves in 365 days, 5 hour nutes, and 57 seconds. As a planet viewed other of the planets, suppose the moon, "it w sent a pretty, variegated, and sometimes a appearance. The distinction between its seas continents, and islands, would be clearly mark would appear like brighter and darker spots

disc. The continents would appear bright, and the ocean of a darker hue, because water absorbs the greater part of the solar light that falls upon it. The level plains (excepting, perhaps, such regions as the Arabian deserts of sand) would appear of a somewhat darker colour than the more elevated and mountainous regions, as we find to be the case on the surface of the moon. The islands would appear like small bright specks on the darker surface of the ocean; and the lakes and mediterranean seas like darker spots or broad streaks intersecting the bright parts, or the land. By its revolution round its axis, successive portions of the surface would be brought into view, and present a different aspect from the parts which preceded."*

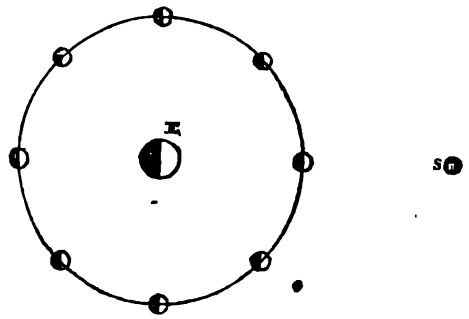
The form of the earth, and probably that of every other planet, is not strictly spherical, but spheroidal; that is, flattened a little at the poles, or extremities of the axis. The diameter of the earth at the axis is 26 miles less than in the cross direction. This peculiarity of the form is a consequence of the rotatory motion, as will be afterwards explained.

The earth is attended by one satellite, the *Moon*, which is a globe of 2160 miles in diameter, and consequently about a 49th part of the bulk of the earth, revolving round its primary in 27 days, 7 hours, 43 minutes, and 11 seconds, at the distance of 240,000 miles. The moon is 400 times nearer the earth than the sun is; but, its diameter being at the same time 400 times less than that of the sun, it appears to us of about the same size. The moon rotates on her axis in exactly the same time as she revolves round the earth. She consequently presents at all times the same part of her surface towards the earth. Inspected through a telescope, her surface appears of unequal brightness, and extremely rugged. The dark parts, however, are

Telescopic appearance of the Moon.

not seas, as has been supposed, but more like the beds of seas, or great alluvial plains. No appearance of water, or of clouds, or of an atmosphere, has been detected. The surface presents numerous mountains, some of them about a mile and three quarters in height, as has been ascertained by measurement of the shadows which they cast on the neighbouring surface. The tops of the mountains of the moon are generally shaped like a cup or basin, with a small eminence rising from the centre, like many volcanic hills on the earth. It has hence been surmised that the moon is in a *volcanic state*, as the earth appears to have been for many ages before the creation of man, and that it is perhaps undergoing processes calculated to make it a fit scene for animal and vegetable life.

The moon, turning on its axis once in a little more than 27 days, presents every part of its surface in succession to the sun in that time, as the earth does in 24 hours. The *day* of the moon is consequently nearly a fortnight long, and its *night* of the same duration. The light of the sun, falling upon the moon, is partly absorbed into its body; but a small portion is reflected or thrown back, and becomes what we call *moonlight*. The illuminated part, from which we derive moonlight, is at all times increasing or diminishing in our eyes, as the moon proceeds in her revolution around our globe. When the satellite is at the greatest distance from the



Phases of the Moon.

sun, we, being between the two, see the whole of the illuminated surface, which we accordingly term *full moon*. As the moon advances in her course, the luminous side is gradually averted from us, and the moon is said to wane. At length, when the satellite has got between the earth and the sun, the luminous side is entirely lost sight of. The moon is then said to *change*. Proceeding in her revolution, she soon turns a bright edge towards us, which we call the *new moon*. This gradually increases in breadth, till a moiety of the circle is quite filled up; it is then said to be *half moon*. The luminary, when on the increase from *new* to *half*, is termed a crescent, from *crescens*, Latin for increasing; and this word has been applied to other objects of the same shape—for instance, to a curved line of buildings.

In the early days of the new moon, we usually see the dark part of the body faintly illuminated, an appearance termed the *old moon in the new moon's arms*. This faint illumination is produced by the reflection of the sun's light from the earth, or what the inhabitants of the moon, if there were any, might be supposed to consider as moonlight. The earth, which occupies one invariable place in the sky of the moon, with a surface thirteen times larger than the apparent size of the moon in our eyes, is then *at the full*, shining with great lustre on the sunless side of its satellite, and receiving back a small portion of its own reflected light. The light, then, which makes the dark part of the moon visible to us, may be said to perform three journeys, first from the sun to the earth, then from the earth to the moon, and finally from the moon back to the earth, before our eyes are enabled to perceive this object.

Mars, the fourth of the primary planets, is a globe of 4139 miles in diameter, or little more than a half of that of the earth; consequently, the bulk of this planet is only about a 5th of that of our globe. It performs a rotation on its axis in 24 hours, 39 minutes, and 21⅓ seconds, and revolves round the sun, at a distance of 142,000,000 of miles, in 686 days, 22 hours, and 18 seconds. Mars appears to the naked eye of a red colour; from which circumstance it was, probably, that the ancients bestowed upon it the name of the god of war. Inspected through a telescope, it is found to be occasionally marked by large spots and dull streaks, of various forms, and by an unusual brightness at the poles. As the bright polar parts sometimes project from the circular outline of the planet, it has been conjectured that these are masses of snow, similar to those which beset the poles of the earth.

Vesta, Ceres, Pallas, and *Juno*, are four small globes,

* Dick's Celestial Scenery, 135.

revolving between the orbits of Mars and Jupiter, in paths near and crossing each other, and which are not only much more elliptical than the paths of the other planets, but also rise and sink much further from the plane of the general planetary revolutions.

Vesta is of a bulk only 1-15,000th part of the bulk of the earth, with a surface not exceeding that of the kingdom of Spain. It revolves round the sun in 3 years, 66 days, and 4 hours, at a mean distance of 225,500,000 miles. Though the smallest of all the planets, it gives a very brilliant light, insomuch that it can be seen by the naked eye.

Juno is 1425 miles in diameter, and presents, when inspected through the telescope, a white and well-defined appearance. Its orbit is the most eccentric of all the planetary orbits, being 253,000,000 of miles from the sun at the greatest, and only 126,000,000, or less than one-half, at the least distance. In the half of the course nearest to the sun, the motion of the planet is, by virtue of a natural law afterwards to be explained, more than twice as rapid as in the other part.

Ceres has been variously represented as of 1624 and and 160 miles in diameter. The astronomer who calculated its diameter at 1624 miles, at the same time believed himself to have ascertained that it has a dense atmosphere, extending 675 miles from its surface. It is of a reddish colour, and appears about the size of a star of the eighth magnitude. Ceres revolves round the sun, at a distance of 260,000,000 of miles, in 4 years, 7 months, and 10 days.

Pallas has been represented as of 2099 miles in diameter, with an atmosphere extending 468 miles above its surface. Another astronomer has allowed it a diameter of only 80 miles. It revolves round the sun, at a mean distance of 266,000,000 of miles, in 4 years, 7 months, and 11 days. However unimportant it may appear beside the larger planets, it has a peculiar interest in the eyes of astronomers, on account of its orbit having a greater inclination to the plane of the ecliptic than those of all the larger planets put together.

These four planets, which are sometimes called *asteroids*, have only recently become known to mankind. Ceres was discovered at Palermo in Sicily, on the 1st of January 1801, by M. Piazzi, who gave it this name in honour of the tutelary goddess of his native country. Pallas was discovered at Bremen, in Lower Saxony, on the 28th of March 1802, by Dr Olbers. Juno was discovered by Mr Harding, at the observatory of Lilienthal, near Bremen, on the 1st of September 1804. Vesta was discovered on the 29th of March 1807, by the same astronomer who had discovered Pallas.

Jupiter is the largest of all the planets. Its diameter is nearly eleven times that of the earth, or 89,170 miles, and its volume or mass is consequently 1231 times that of our globe. The density of Jupiter is only a fourth of that of the earth, or about the lightness of water; and a human being, if transferred to it, would be able to leap with ease over a pretty large house. It performs a rotation on its axis in 9 hours, 55 minutes, and 33 seconds, or about two-fifths of our day. It revolves round the sun, at a distance of 490,000,000 of miles, in 4330 days, 14 hours, and 39 minutes, or nearly twelve of our years. Viewed through a telescope, Jupiter appears surrounded by dark lines, or belts, which occasionally shift, melt into each other, or separate, but sometimes are observed with little variation for several months. These belts are generally near the equator of the planet, and of a broad and straight form; but they have been observed over his whole surface, and of a lighter, narrower, and more streaky and wavy appearance. It is supposed that the dark parts are lines of the body of the planet, seen through openings in a bright cloudy atmosphere.

Jupiter is attended by four satellites, which revolve round it, in the same manner as the moon round our globe, keeping, like it, one face invariably presented to their primary. They are of about the same size, or a little larger diameter than our moon; the first having a diameter of 2508, the second of 2068, the third of 3377, and the fourth of 2890 miles. The first revolves round the primary planet in 1 day, 18 hours, 28 minutes; the second in 3 days, 13 hours, 14 minutes; the third in 7 days, 3 hours, 43 minutes; and the fourth in 16 days, 16 hours, 32 minutes. These satellites frequently eclipse the sun to Jupiter; they are also eclipsed by the primary planet, but never all at the same time, so that his dark side is never altogether without moonlight.

The satellites of Jupiter were discovered by Galileo, being among the first results of the invention of the telescope. They have been of great use in several astronomical calculations of importance, particularly in suggesting the theory of the gradual propagation of light. It having been observed that their eclipses always took place sooner than was to be expected when the earth was near Jupiter, and later when it was at the greatest distance, an astronomer solved the difficulty by supposing that light required some time to travel—a conjecture which was afterwards confirmed by other observations.

Saturn, seen through a telescope, is the most remarkable of all the planets, being surrounded by a ring, and attended by seven satellites. In bulk this is the second of the planets, being 79,042 miles in diameter, or about 995 times the volume of the earth. Its surface appears slightly marked by belts like those of Jupiter. It performs a rotation on its axis in 10 hours, 16 minutes, and revolves round the sun, at a distance of 900,000,000 of miles, in 10,746 days, 19 hours, 16 minutes, or about 29½ of our years. At such a distance from the sun, that luminary must be diminished to one-eightieth of the size he bears in our eyes, and the heat and light in the same proportion. The matter of Saturn is one-eighth of the density of our earth.

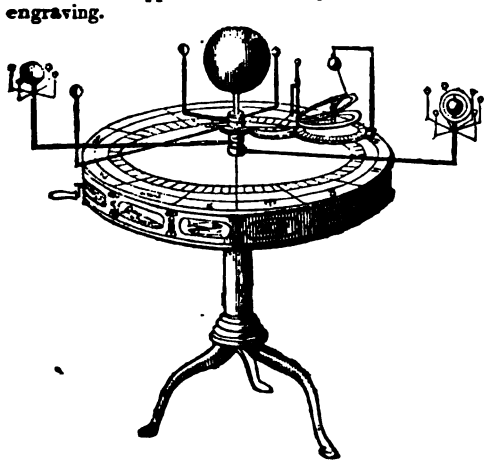
The ring of Saturn surrounds the body of the planet in the plane of its equator. It is thin, like the rim of a spinning wheel, and is always seen with its edge presented more or less directly towards us. It is luminous with the sun's light, and casts a shadow on the surface of the planet, the shadow of which is also sometimes seen falling on part of the ring. The distance of the inner edge from the planet is calculated at about 19,000 miles; its entire breadth from the inner to the outer edge is 28,538; the thickness is not more than 100. In certain positions of the planet, we can see its surface at a considerable angle, and the openings or loops which it forms at the sides of the planet. At other times we see its dark side, or only its edge. From observations made upon it in favourable circumstances, it is found to be apparently divided near the outer edge by a dark line of nearly 1800 miles in breadth, as if it were divided into two concentric rings. From other appearances, it has been surmised to have other divisions, or to be a collection of several concentric rings. It is also occasionally marked by small spots. The ring of Saturn rotates on its own plane in 10 hours, 32 minutes, 15 seconds, and a part of a second, being about the same time with the rotation of the planet.

The seven satellites of Saturn revolve around it, on the exterior of the ring, and almost all of them in nearly the same plane. They are so small as not to be visible without a powerful telescope. The two inner ones are very near to the outer edge of the ring, and can only be discerned when that object is presented so exactly edgeways as to be almost invisible. They have then been seen passing like two small bright beads along the minute thread of light formed by the edge of the ring. The three next satellites are also very small; the sixth is larger, and placed at a great interval from the rest. The seventh is the largest; it is about the size of the planet Mars, and is situated at nearly thrice the distance of the sixth, or about 2,300,000 miles from the body of Saturn. The revolutions of these satellites range from 1 to 79 days; and it has been ascertained of some of them that, according to the usual law of secondary planets, their rotations on their axes and their revolutions round their primary are performed in the same time, so that, like our moon, they always present the same face to the centre of their

system. The orbit of the seventh satellite is much inclined to the plane of Saturn's equator.

Uranus, or *Herschel*, the remotest planet known in the solar system, is a globe of 35,112 miles in diameter, rotating on its axis in 7 hours, and performing a revolution round the sun, at the distance of 1800,000,000 of miles, in 84 of our years. It was discovered, on the 13th of March 1781, by Sir William Herschel, at Bath. The sun to this remote planet must appear only a 400th part of the size which he bears in our eyes. Two satellites are known, and other four are suspected, to attend upon Uranus. The two which have been observed circulate round their primary in orbits almost perpendicular to the ecliptic, and are further supposed to move in a direction contrary to that of all the other planetary motions—namely, from east to west.

Some idea may be obtained of the comparative size of the principal objects of the solar system, by supposing a globe of two feet diameter, placed in the centre of a level plain, to represent the sun; a grain of mustard-seed, placed on the circumference of a circle 164 feet in diameter, for Mercury; a pea, on a circle of 284 feet, for Venus; another pea, on a circle of 430 feet, for the Earth; a large pin's head, on a circle of 654 feet, for Mars; four minute grains of sand, in circles of from 1000 to 1200 feet, for Vesta, Ceres, Pallas, and Juno; a moderate-sized orange, on a circle of nearly half a mile in diameter, for Jupiter; a small orange, on a circle four-fifths of a mile in diameter, for Saturn; and a small plum, or full-sized cherry, on a circle of a mile and a half in diameter, for Uranus. It is calculated that the united mass of the whole of the planets is not above a 600th part of the mass of the sun. The sun and planets are represented, with an approximation to correctness, in philosophical toys termed orreries, of which the appearance is conveyed in the annexed engraving.



Orrery.

COMETS.

Comets are light vapoury bodies, which move round the sun in orbits much less circular than those of the planets. Their orbits, in other words, are very long ellipses or ovals, having the sun near one of the ends. Comets usually have two parts, a body or nucleus, and a tail; but some have a body only. The body appears as a thin vapoury luminous mass, of globular form; it is so thin, that, in some cases, the stars have been seen through it. The tail is a lighter or thinner luminous vapour, surrounding the body, and streaming far out from it in one direction. A vacant space has been observed between the body and the enveloping matter of the tail; and it is equally remarkable that the tail has in some instances appeared less bright along the middle, immediately behind the nucleus, as if it were a stream which that nucleus had in some measure parted into two.

In ignorant ages, the sudden appearance of a comet in the sky never failed to occasion great alarm, both on account of its threatening appearance, and because it was considered as a sign that war, pestilence, or famine, was about to afflict mankind. Knowledge has dispelled all such fancies; but yet we are not well acquainted with the nature of comets.

Out of the great multitude—certainly not less than 1000—which are supposed to exist, about 150 have been made the subject of scientific observation. Instead of revolving, like the planets, nearly on the plane of the sun's equator, it is found that they approach his body from all parts of surrounding space. At first, they are seen slowly advancing, with a comparatively faint appearance. As they approach the sun, the motion becomes quicker, and at length they pass round him with very great rapidity, and at a comparatively small distance from his body. The comet of 1680 approached within one-sixth of his diameter. After passing, they are seen to emerge from his rays, with an immense increase to their former brilliancy and to the length of their tails. Their motion then becomes gradually slower, and their brilliancy diminishes, and at length they are lost in distance. It has been ascertained that their movement round the sun is in accordance with the same law which regulates the planetary movements, being always the quicker the nearer to his body, and the slower the more distant. In the remote parts of space their motions must be extremely slow.

Three comets have been observed to return, and their periods of revolution have been calculated. The most remarkable of these is one usually denominated Halley's Comet, from the astronomer who first calculated its period. It revolves round the sun in about seventy-five years, its last appearance being at the close of 1835. Another, called Enke's Comet, from Professor Enke of Berlin, has been found to revolve once in 1207 days, or 3⅓ years; but, in this case, the revolving body is found, at each successive approach to the sun, to be a little earlier than on the previous occasion, showing that its orbit is gradually lessening, so that it may be expected ultimately to fall into the sun. This fact has suggested that some part of that space through which the comet passes, must be occupied by a matter presenting some resistance to the movement of any denser body; and it is supposed that this matter may prove to be the same which has been described as constituting the zodiacal light. It is called a *resisting medium;* and future observations upon it are expected to be attended with results of a most important nature, seeing that, if there be such a matter extending beyond the orbit of the earth, that planet, in whose welfare we are so much interested, will be exposed to the same ultimate fate with Enke's Comet.

The third, named Beila's Comet, from M. Beila of Josephstadt, revolves round the sun in 6¾ years. It is very small, and has no tail. In 1832, this comet passed through the earth's path about a month before the arrival of our planet at the same point. If the earth had been a month earlier at that point, or the comet a month later in crossing it, the two bodies would have been brought together, and the earth, in all probability, would have instantly become unfit for the existence of the human family. Comets are often affected in their motions by the attraction of the planets. Jupiter, in particular, has been described by an astronomer as a perpetual stumbling-block in their way. In 1770, a comet got entangled amidst the satellites of that planet, and was thereby thrown out of its usual course, while the motions of the satellites were not in the least affected.

Comets often pass unobserved, in consequence of the part of the heavens in which they move being then under daylight. During a total eclipse of the sun, which happened sixty years before Christ, a large comet, not formerly seen, became visible, near the body of the obscured luminary. On many occasions, their smallness and distance render them visible only by the aid of the telescope. On other occasions, they are of vast

size. The comet now called Halley's, at its appearance in 1456, covered a sixth part of the visible extent of the heavens, and was likened to a Turkish scymitar. That of 1680, which was observed by Sir Isaac Newton, had a tail calculated to be 123,000,000 of miles in length, a space greater than the distance of the earth from the sun. There was a comet in 1744, which had six tails, spread out like a fan across a large space in the heavens. The tails of comets usually stretch in the direction opposite to the sun, both in advancing and retiring, and with a slight wave at the outer extremity, as if that part experienced some resistance.

THE STARS.

The idea at which astronomers have arrived respecting the stars, is, that they are all of them suns, resembling our own, but diminished to the appearance of mere specks of light by the great distance at which they are placed. As a necessary consequence to this supposition, it may be presumed that they are centres of light and heat to systems of revolving planets, each of which may be further presumed to be the theatre of forms of being bearing some analogy to those which exist upon earth.

The stars seen by the naked eye on a clear night are not above a thousand in number. This, allowing a like number for the half of the sky not seen, gives about two thousand in all of visible stars. These are of different degrees of brilliancy, probably in the main in proportion to their respective distances from our system, but also perhaps in some measure in proportion to their respective actual sizes. Astronomers class the stars under different *magnitudes*, not with regard to apparent size, for none of them present a measurable disc, but with a regard to the various quantities of light flowing from them: thus, there are stars of the first magnitude, the second magnitude, and so on. Only six or seven varieties of magnitude are within our natural vision; but with the telescope vast numbers of more distant stars are brought into view; and the magnitudes are now extended by astronomers to at least sixteen.

The stars are at a distance from our system so very great, that the mind can form no idea of it. The brilliant one called Sirius or the Dog-star, which is supposed to be the nearest, but merely because it is the most luminous, has been reckoned by tolerably clear calculation to give only 1-20,000,000th part of the light of the sun: hence, supposing it to be of the same size, and every other way alike, it should be distant from our earth not less than 1,960,000,000,000,000,000 miles. An attempt has been made to calculate the distance of Sirius by a trigonometrical problem. It may be readily supposed that the position of a spectator upon the earth with respect to celestial objects must vary considerably at different parts of the year: for instance, on the 21st of June, he must be in exactly the opposite part of the orbit from what he was on the 21st of December—indeed, no less than 190,000,000 of miles from it, or twice the distance of the earth from the sun. This change of position with relation to celestial objects is called *parallax*. Now, it has been found that Sirius is so distant, that an angle formed between it and the two extremities of the earth's orbit is too small to be appreciated. Were it so much as one second, or the 3600th part of a degree, it could be appreciated by the nice instruments we now possess; but it is not even this. It is hence concluded that Sirius must be at least 19,200,000,000 of miles distant, however much more! Supposing this to be its distance, its light would take three years to reach us, though travelling, as it does, at the rate of 192,000 miles in a second of time!

It is ascertained beyond doubt, that some stars, at e time visible, and registered by ancient astronomers, are not now to be seen; while many instances are on *record of* stars which have come into sight for a time, *then gradually vanished. A large star suddenly so visible 125 years before Christ*, and attracted *tion of Hipparchus, who* was thereby induced *up a catalogue of stars, the first* ever made.

In the year 389, a star blazed forth in the co Aquilla,* and, after remaining for three week as the planet Venus, disappeared. A star a the region of the heavens between Cepheus opeia, in the years 945, 1264, and 1572, and i to be one which comes within our sight o three hundred and nineteen years, or thereb last appearance, it was very attentively obser celebrated Danish astronomer Tycho Brahe, lished a volume respecting it. Its appearar sudden, that, in returning from his laborat dwelling-house, he found a group of count gazing at it, and was satisfied it had not be quarter of the sky half an hour before. I as bright as Sirius, and continued till it Jupiter when brightest, and was visible at It disappeared entirely about eighteen mo being first observed. Another bright star in the constellation Serpentarius, in October remained for a year. It is mentioned by cont writers, that, at the birth of Charles II. in 16 star, never before observed, appeared in the as if to mark something extraordinary in th of the child that day ushered into existence. stances have been noticed in still more rec but, upon the whole, this is a point in whic mical observation is defective. It seems, h be clearly ascertained that some, if not all of have periodical motions throughout space, s rapid than others. In several of the instan the period is short, there is no want of posit ledge. It has been ascertained, for instance star Omicron, in Cetus, has a periodical mov cupying 334 days. It is seen as bright as a second magnitude for about a fortnight; then diminishes for three months, till it becomes in which state it remains for five months, wh becomes visible, and gradually increases till its former brightness, more or less—for it always reach the same degree of lustre. Algol, in the constellation Perseus, continu during a period of sixty-two hours, when it loses its splendour, and from a star of the se nitude, is reduced, in three hours and a ha fourth; after which it begins to increase, an hours and a half resumes its former size. eleven other stars which exhibit analogous pl some of them at intervals of five hundred which we may look forward without any dang take. Astronomers have not yet made suffic tensive observations to settle whether our have any motion through space; but that it a motion, has been surmised without any ap ference to this branch of inquiry.

Another variety in the nature of these lum their being in some instances, not *single* star appear to the naked eye, but a group of two evidently, from their motions, forming on The star Castor, one of the Twins, is found, w magnified, to consist of two stars, of between and fourth magnitude, within five seconds (a v space) of each other. Sir William Hersc observations upon more than 500 stars of where the distance is not more than half a mi a very small space); and to this list a fore nomer has added five times that number. N reason to suppose that, in *all* these instances, stars is at a great distance behind the other, they are only brought together by the accide position. Many of the double stars no doubt

* It may be stated here, in anticipation of more pa planations to be given afterwards, that the starry hea astronomers mapped out into a series of constellations blages of stars, each of which bears the name of so other object, as *Aquila* the Eagle, *Cetus* the Whale, *Pollux*, twin demigods of the Greek mythology, &c. cular star in a constellation, in the order of its m distinguished by a letter of the Greek alphabet, and, are exhausted, with a number.

tally brought together; but of a great number
een fully ascertained that they are each a sys-
ith a reciprocal relation to each other. They
erefore called *Binary Stars*. It is generally
ed that they move round each other within
in time, and in elliptical orbits; the revolution
or, for instance, is supposed to be accomplished
years; of ξ of Ursa Major, in 58½ years; of 70
ici in 78 years. In fact, there is the same variety
branch of the starry system as in its other de-
nts, and the revolutions of the few binary stars
ave been accurately surveyed range from forty-
o twelve hundred years. Several of these dupli-
ars have made a revolution since they were first
ed, and are now advancing in their second period.
Hercules, was seen double, in 1782, by Sir
m Herschel; in 1795, it was hardly distinguish-
o be double; in 1802, it was double no longer,
e being eclipsed by the other, though a small
f one was still jutting out at the side of the other;
omers are now watching to observe them once
ecome separate. Whether one of these stars
to the other as a sun, or whether both are suns,
ther the organised life with which they are pro-
stored, be of a kind which can endure a perpetual
nd heat thrown from the one to the other—or in
other manner these immense worlds are put to
t would be vain to inquire. One remarkable
arity in them is the variety of tints apparent in
ht emitted by a considerable number of them;
accurate account has yet been given of the rea-
this wonderful difference of colour in the stars.
haps the most magnificent of all the starry phe-
a is the *Milky Way*. This, as is generally known,
oad belt, of whitish lustre, which stretches round
ole sky, being parted into two streaks for a large
f the circuit. The ancients formed the mean
f this light, that it was the milk spilt by the nurse
reury, one of the deities; and hence its name.
examined by a telescope, it is found to consist
ly of stars, "scattered by millions," as Sir John
hel beautifully describes them, "like glittering
on the black ground of the general heavens."
verage magnitude of these stars is about the tenth
eleventh, and hence their invisibility to the naked
It is a very remarkable circumstance, that, though
ars of the larger magnitudes are scattered with
lerable equality over the whole heavens, there is
able clustering of the smaller ones towards the
of this ring. Sir William Herschel, by gauging,
were, the depth of our starry system in this and
parts, arrived at what he believed to be an ap-
mation to the figure of the system itself—namely,
ongated cake-shaped mass, parting flat-wise into
t one particular part of the exterior (where the
Way is double), and in which our solar system
laced somewhat nearer the one extremity than
ther. Where the distance between two stars is
eat as we have seen, and we can suppose the dis-
between all the rest to be no less, what must be
ntire extent of this star-system, composed as it is
llions of millions of distinct bodies!

NEBULÆ.

ithin the bounds of what has here been called the
system, great numbers of bodies have been dis-
ed, which, from their cloud-like appearance, are
d *Nebulæ*. There is one of magnificent appearance
girdle of the constellation Andromeda, and another
more splendid in the sword-hilt of Orion, both vi-
to the naked eye. Some of these objects are of
irregular form, stretching like a fragment of semi-
cid membrane over the sky, with patches of brighter
er scattered irregularly throughout their extent.
thers, the bright patches are of greater intensity,
to have the decided appearance of *gatherings* of
matter towards a particular point. Others there
in which these bright parts seem nearly disengaged
the surrounding thin matter, or only bedded on a
slight background composed of it. In a fourth class, we see detached masses, approaching more or less to a spherical form, and with various measures of comparative brightness towards the centre, until they resemble a star with only a slight *bur* around it. It is a new and startling surmise of astronomers, that these are examples of a series of states in which nebulous matter exists, during a process forming it into solar systems more or less analogous to our own—belated portions, so to speak, of the same soft and diffused material, which, countless ages ago, was condensed into the defined bodies forming the remainder of our star-system!

There is much, it must be owned, to support this hypothesis, startling as it is. The physical laws known to operate in our own solar system are in perfect harmony with it. It has been shown that such matter, in agglomerating, would necessarily assume a spherical form, just as a drop of dew takes that shape on the point of a thorn, namely, by the law of attraction. Particles of any fluid matter, flowing towards a centre, will, unless in the extraordinary circumstances of their meeting in a direct line (circumstances which scarcely ever occur), form a whirl or vortex. The meeting of two currents of the ocean forming a whirlpool, or of two currents of air forming a whirlwind, or even such a trivial and familiar phenomenon as the sinking of water through a funnel, are examples of the working of this law of matter. Hence, then, a rotatory motion would be an almost unavoidable result of the agglomeration of a mass of nebulous matter. In this we can, of course, see the origin of such a motion as that which our sun is known to have upon his axis.

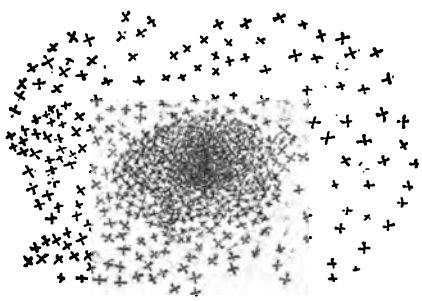
And not only are the formation and movements of suns to be thus accounted for, but it has been shown that the same laws will explain how a whole planetary system may have been made up. As the process of condensation in a nebular mass proceeds, the whirling motion must always become more rapid, just as a sling, when the string is allowed to wind up round our finger, flies always the faster as the string shortens. While the rotatory motion is thus increasing, the centrifugal force may become too great to permit the outer and probably softer portion to adhere to the mass; and this outer and softer portion will therefore be left off as a ring surrounding the principal mass at a little distance. Other portions may thus be successively detached, till a considerable number of rings will be left encircling the central mass. Only if the matter of these rings be of an uniform character, can it be expected that they should continue as rings. Almost necessarily, there will be inequalities in their composition, causing them to break up into pieces, each of which, by virtue of gravity, will then collapse into a sphere. A sphere, thus formed, must needs retain the same revolutionary motion as the ring of which it once formed a part, and at the same time it must acquire a rotatory motion in the same direction. Thus we have a set of primary planets, the bodies of which have only to undergo the same processes as the central mass, in order to throw off satellites. The two rings which surround Saturn appear an example of two exterior portions of that planet as yet not advanced from the intermediate state, but which may in time become additions to the number of his satellites. The zodiacal light may also be a residue, of extreme thinness, of the matter of which our system was formed.

It might be supposed that this hypothesis, ingenious as it is, could scarcely be stretched to account for the formation of solar systems in which there are two suns revolving round each other. But this difficulty is easily overcome. It has been shown that the nebulous matter, in certain cases, may assume that arrangement. On the surface of a flowing stream, in which slight repulsions of water from the banks produce little eddies, how common is it to see two of those miniature whirlpools come within each other's influence, and then go on wheeling round each other: *precisely in that manner* do the two suns of a binary star carry on their revolutions, and from circumstances

of a similar nature, though upon so much greater a scale, may these revolutions have originated.

REMOTE STAR-SYSTEMS.

Our own star-system, inconceivably vast as it is, is but an item of the heavenly inventory. Far beyond its bounds, the telescope of Herschel has descried similar systems in great numbers, each hanging in some tolerably defined shape in the vast empyrean, and each capable of being resolved, not exactly into stars, though these are in some instances visible, but into what has been expressively called *star-dust*, a collection of small brilliant particles, each of which would probably appear a distinct sun under a stronger power of artificial vision. Observations have been made upon these star-systems chiefly in the direction of the thinner parts of our own system, where the sky is clearest of our own stars, and where of course they are most distinct from other and nearer objects. But even in these limited fields of the sky very great numbers have been seen—between 1000 and 2000 in the northern hemisphere alone—a number, we must recollect, exceeding that of all the ordinarily visible stars in the same moiety of the heavens.



Remote Star-System.

They are of various forms, but in general, as has been said, tolerably well defined, and therefore differing entirely from the irregularly diffused matter of our nebulæ. Many appear as spherical clusters, with a crowding of the star-dust towards the centre: of this kind there is a brilliant example in the constellation Hercules. It has been remarked, that in the worlds about the centre of such clusters, the visible heavens must be inconceivably brilliant, though they will have no appearances resembling our milky way. There is another spherical class, in which the external parts are the most brilliant: in these cases, the visible heavens of a world near the centre will probably be almost entirely composed of milky way. From our earth these annular clusters are presented in various points of view, some so nearly edgewise, that we can barely see the long line of thin matter in the centre. There is one of most peculiar form, namely an oval, with a regularly formed space of more brilliant matter extending across it in something like the form of a dumb-bell! Surprising to relate, there are more than one bearing a strong resemblance to the form which has been presumed as that of our own star-system, namely, a flattened mass, with a brilliant annular exterior, parting flatwise into two at one part! In the *Magellanic clouds*, a nebulous object in the southern hemisphere, there is one remote star-system (30 Doradûs), described by Sir John Herschel as "consisting of a number of loops united in a kind of unclear centre or knot, *like a bunch of ribbons disposed in what is called a true lover's knot!*" "We are," says an astronomer who possesses eloquence worthy of his noble science, "lost in mute astonishment at these endless diversities of character and form. But in the apparent aim of things near and around us, we may perhaps discern some purpose which such variety will also serve. It seems the object or result of known material arrangements, to evoke every variety of creature, the condition of whose being can be made productive of a degree of durability; and perhaps it is one end of this wonderful evolution of firmaments of all orders, that there too the law of variety may prevail, and room be found for unfolding the whole riches of the Almighty."*

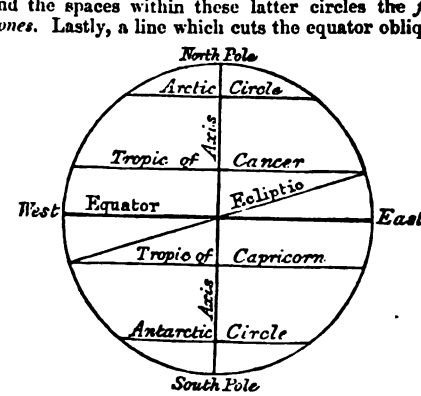
"The vast general distance of these clusters, their distinctness from our own system, and their relative distances, have been determined by the comparative powers of the telescopes employed in observing them. Some of them are distant from us many thousands of times the distance of Sirius, the nearest of our own stars. The astronomer last quoted speaks of the telescope representing us as in the centre of a sphere, whose circumference is 35,000 times as far from us as that star, "and beyond whose circuit, infinity, boundless infinity, stretches unfathomed for ever."

URANOGRAPHY.

Under this term (delineation of the heavens) may be comprehended all those arrangements which have been made by astronomers for artificial representation of the heavens, and for the working of the many mathematical problems of which the heavenly bodies are the subject.

The stars, as they appear in their places on the apparent concave sphere of the heavens, are represented in proper arrangement on the *celestial globe*, which is expressly designed as a miniature of that sphere, but bearing also the fanciful figures assigned to the constellations, and the lines necessary for the working of various problems. It is required that, in the first place, we give a brief description of the terrestrial globe, or similar miniature representation of the earth.

Astronomers, for the convenience of their science, have supposed certain lines to pass through and around the globe. One, passing through the centre, between north and south, is called the *axis* of the globe, from a Greek word signifying axle. The two extremities are called the *poles*, from the Greek word *polos*, signifying a pivot. A line girding the globe in the middle is styled the *equator;* all to the north and south of which are respectively called the northern and southern hemispheres. The circuit of the earth, both in its girth between east and west, and between north and south, is divided into 360 parts, called degrees. At the distance of twenty-three and a half nearly of these degrees from the equator, in both directions, are two parallel lines called the *tropics*, and at the same distance from each pole is a parallel circle, styled in the one case the *arctic*, and in the other the *antarctic* circle. The space between the tropics is called the *torrid zone*, because the sun, being always vertical in some part of that space, produces a greater degree of heat than what is felt elsewhere. The spaces between the tropics and the arctic and antarctic circles are called the *temperate*, and the spaces within these latter circles the *frigid zones*. Lastly, a line which cuts the equator obliquely,



touching upon opposite points of the tropics, is called the *ecliptic*. The ecliptic and equator are called greater

* Views of the Architecture of the Heavens, by J. P. Nichol, LL.D. 1837.

circles, because they cut the earth at the thickest parts; the others are called lesser circles.

A series of lines drawn from pole to pole over the earth's surface (like the division lines of a peeled orange), and cutting the equator at right angles, are called *meridians* (from the Latin word *meridies*, mid-day) or lines of longitude. Every place upon the earth is supposed to have one of these passing through it, although only 24 are described upon the terrestrial globe. When any one of these is opposite the sun, it is then mid-day or twelve o'clock with all the places situated on that meridian, and, consequently, midnight with those on the opposite meridian on the other side of the earth. The exact situation of a place upon the earth's surface, or its latitude and longitude, is determined by means of these circles. They are all divided, as already hinted, into 360 parts, which parts are called *degrees;* these degrees again into 60 equal parts, called *minutes;* the minute into 60 others, called *seconds*, and so on. They are all indicated by certain signs placed behind the figure, and near the top of it—thus, 8° 5′ 7″ is 8 degrees, 5 minutes, 7 seconds. A degree is 60 geographical miles, or about 69 English statute miles; a minute is the 60th part of that; and so on. The *latitude* of a place is its distance measured in that manner from the equator. If it lies north of that line, it is in north latitude; if south of it, in south latitude. There being only 360 degrees in the circumference of the earth, and the distance from the equator to either of the poles being only a fourth part of it, a place can never have more than 90 degrees of north or south latitude. The *longitude* of a place is the distance of its meridian from another, which is called the first meridian. The first meridian is quite arbitrary, and it is a matter of indifference through what point we draw it, provided it be settled and well known which one we adopt, so as to prevent mistakes. Foreigners fixed upon the principal observatories of their respective countries. In Germany, the island of Ferro is generally adopted; in France, the observatory of Paris; and in England, that of Greenwich. Longitude is reckoned either east or west of the first meridian; and 180 is therefore the utmost degree of longitude. Some geographers, however, reckon longitude all the way round the globe. From the shape of the earth, which is flat at the poles, the degrees of longitude decrease as we approach these in either direction. In order to measure latitude, each globe is furnished with a brass meridian circle, on which the degrees are marked. Longitude is measured by a similarly graduated circle, termed the artificial horizon, in which the globe is suspended.

The other great circle, called the Ecliptic, is divided into twelve parts, called signs, which bear the name of the constellations through which this circle passes in the heavens, as shall be afterwards explained. There are other smaller circles which run round the earth parallel to the equator; these are called *parallels of latitude*, because, being every where at the same distance from the equator, the latitude of every point contained in any one of them is the same.

The celestial globe, representing that apparent outer sphere, the sky, in the centre of which the earth seems suspended, is marked by lines similar to those upon the terrestrial globe, each line upon the latter being supposed to have a corresponding line opposite to it in the heavens. Thus, the celestial sphere is divided into the same number of degrees as the terrestrial. The celestial poles correspond to those parts of the heavens to which the terrestrial poles always point. The celestial equator corresponds also to the terrestrial, and is, like it, every where 90 degrees distant from the poles. The equator of the earth thus lies directly under that of the heavens: the ecliptic does exactly the same, and cuts the former also at an angle of 23 degrees 28 minutes.

The place where the ecliptic cuts the equator at the vernal equinox, is called the first point of Aries; and from this point the distance of all celestial bodies eastward and westward of it is measured. This is called their *right ascension*, and corresponds to the terrestrial longitude. Their latitude is determined by their distance from the equator, and is called their *declination*. The declination of the sun or other heavenly body is therefore called north or south declination, according to its proximity to the north or south pole of the heavens. Hence it follows, that when the sun's declination is 10 degrees north, he is vertical at a place whose latitude is 10 degrees north. But the right ascensions do not so correspond with the longitudes, simply because the first point of the constellation Aries does not correspond to the first meridian (Greenwich); and because the longitudes are not measured quite round as the right ascensions are.

The sun, which is always in the ecliptic, has of course no latitude, but he passes through all the degrees of longitude in a year. When any other celestial object has the same longitude as the sun, it is said to be in *conjunction* with him; and when the difference of longitude amounts to 180 degrees, half the circle of the heavens, it is said to be in *opposition* to him. Both these terms are comprehended in that of *syzygy*, which, when applied to any celestial object, means that it is either in conjunction or opposition to him. What is called an *equinoctial colure*, is a great circle supposed to be drawn through the pole of the ecliptic and the points where it intersects the equator. The *solstitial colure* is a similar circle, which passes through the solstitial points at right angles to it. The former colure is a secondary to the ecliptic, and the latter a secondary to both it and the equator. The equinoctial points are Aries and Libra, where the ecliptic cuts the equator. The solstitial points are Cancer and Capricorn; and when the sun is in either of them, he is at his farthest distance above or below the equator.

Allusion has already been made to the constellations, or fanciful figures, marked on celestial globes, to aid in distinguishing the position of the stars. The earliest astronomers seem to have adopted the idea of thus mapping out the starry heavens, being no doubt at first led to do so by the slight resemblances borne by various groups of stars to familiar terrestrial objects. Thus, a group in the northern part of the sky bears some resemblance to an ancient wain, or to a plough—as also to the hinder part of an animal, with its tail extended. Hence, it has been variously called *the Plough*, *Ursa Major*, or the Greater Bear, and *Charles's Wain*—the last term being in honour of the illustrious French king Charlemagne. (In ordinary globes, Ursa Major is

Constellation Orion.

alone marked.) Another group, in the southern heavens, conveys the idea of a man's figure, and has been called Orion, from an early Greek semi-divine hero of that name. Some of the names of the constellations were conferred by Chaldean observers several hundred years before our era: others have been given within the last few ages. Particular stars of large magnitude also bear particular names, generally Arabic, having been affixed by Arabian astronomers, as Aldebaran, Dubbe, Alioth, &c. Arcturus and the group of small stars called the Pleiades, are alluded to in the book of Job, which is well known to be one of the earliest of the scriptural compositions, and probably not less than 3000 years old.

Twelve of the constellations are placed in that part of the heavens which is opposite to the ecliptic in the terrestrial globe; that is to say, the plane of the planetary motions, if extended to the stars, would strike the part occupied by these constellations. This part of the celestial globe is called the *Zodiac*, and these are named the Zodiacal Constellations, or more commonly, the *Signs of the Zodiac*. The zodiac is a zone or belt, extending eight or ten degrees on each side of the ecliptic. It is divided into twelve parts, each of thirty degrees, called the signs of the zodiac. The names of the signs, and the days in which the sun enters them, are as follow:—*Spring signs*—Aries, the Ram, 21st of March; Taurus, the Bull, 19th of April; Gemini, the Twins, 20th of May. *Summer signs*—Cancer, the Crab, 21st of June; Leo, the Lion, 22d of July; Virgo, the Virgin, 22d of August. These are called northern signs, being north of the equator. *Autumnal signs*—Libra, the Balance, 23d of September; Scorpio, the Scorpion, 23d of October; Sagittarius, the Archer, 22d of November. *Winter signs*—Capricornus, the Goat, 21st of December; Aquarius, the Water-bearer, 20th of January; Pisces, the Fishes, 19th of February. These are called southern signs. Within the zodiac are performed the revolutions of all the principal planets.

MECHANICAL ASTRONOMY.

It is the province of Mechanical Astronomy to explain the physical laws which have produced, and which sustain, the arrangements of the bodies occupying space, as well as all the various results of the arrangement and relations of those bodies.

It may in the first place be proper to explain what is meant by a *physical law*. In the operations of nature, certain results are invariably observed to take place as a consequence of certain circumstances. This has suggested to the mind of man, that there is an *order* in all things, by virtue of which they are regulated to the best general purposes, the authorship of the *order* being no doubt the same as the authorship of matter itself, that is to say, referable to the Divine Being. Any particular regulation which we find imposed upon matter, we term a law of matter, or a physical law.

LAWS OF ATTRACTION AND MOTION.

We have first to consider the laws by virtue of which *particles and masses of matter attract each other*, as far as these are concerned in the province of Mechanical Astronomy.

Particles of matter, when brought close together, or within insensible distances, have a tendency to cohere, or stick together, and this operates in all cases, unless there be opposing influences of superior force. It is termed the *attraction of cohesion*.

Particles of matter have also a tendency to move or be drawn towards each other. This is called the *attraction of gravitation*, because it is what the weight or gravity of an object depends upon.

Under the influence of the attraction of cohesion, *particles of fluid matter, when suspended at a proper distance from other objects, arrange themselves round a centre, and take a globular form.* The dew-drop, suspended from the point of a thorn or blade of grass, is a familiar example of matter thus acting. If two such drops are brought close together, they will unite; a new and common centre will be instantly established for both, and they will resolve themselves into a new mass equally globular as before.

Under the influence of the law of gravitation, when any two masses of matter are brought to a proper distance from each other, they will, if there be no sufficient obstacle, rush together, and then remain in union.

We may see this law operating if we take two fragments of cork, no matter how small, and set them afloat on the surface of a cup of water. If kept a considerable way apart, the impediments to their mutual attraction are too strong, and they therefore do not meet. But, if brought within a short distance of each other, we shall observe them begin mutually to exercise an influence over each other, and immediately they will rush together, and so remain.

Material laws are equally ready to act on a large as a small scale, and on a small as upon a large one. The same attraction of cohesion, which causes the tear drawn from our eye by sympathetic feeling to be round, produced the spherical form of the vast orbs which people space. These, being originally fluid masses, gathered themselves round a centre, by the irresistible force of the law of the attraction of cohesion. So also are the planets restrained in their position regarding the central luminary, by the force of the same law of gravitation which causes an apple dropping from a tree to fall upon the ground, or two tea-stalks floating in our evening cup to go together, and range themselves as closely side by side as possible.

We have next to consider the laws which regulate the *motion* of masses of matter.

A mass of matter set in motion upon the surface of the earth, or within the compass of the atmosphere, invariably comes sooner or later to a stop. If we roll a ball along the surface, it goes briskly for a while, then slowly, and finally it stops and remains at rest. What causes it to stop is the resistance it meets with from the roughness of the ground, and the opposing fluid (atmosphere) in which it moves. It is precisely when as much force has acted in opposition to its motion, as was exerted in setting it agoing, that it comes to a pause. Were it not, however, for this opposing force, the ball, once set in motion, would travel on and on for ever.

Just so the orbs of space, once set in motion, go on and on perpetually, there being nothing whatever to oppose their progress. This applies as well to their spinning or rotatory motion on their axes, as to their progress along their orbits. If a top were set a-spinning on a smooth marble tablet, underneath the exhausted receiver of an air-pump, it would be found to keep in motion for a far longer space of time than in any ordinary circumstances, for then there would be comparatively little air to give resistance to its rotation, and the chief opposition would lie in its friction against the tablet. Could the air be entirely drawn away, and the top be made to spin in a state of suspension, it would be in precisely the same circumstances as an orb revolving on its axis in space, and in that case it would never stop as long as all the circumstances remained unaltered.

But the orbitual revolutions of planets are circular —why should they be so? Because these orbs are under the influence of both the law of attraction and the laws of motion. Assuming the nebular hypothesis to be true, the impulse which they originally obtained tended to throw them off in a direct line into space, in the plane of the ecliptic. But the law of attraction prevented this result, and caused them to assume a circular course round the parent orb. They were propelled by the one cause (the centrifugal or centre-quitting force), but restrained by another (the centripetal or centre-seeking force, that is to say, attraction), and they therefore settled into paths where the two forces balanced each other.

To explain. If we take any circular body, say a

common grinding-stone, and, having first put a few pieces of clay upon its rim, cause it to revolve quickly in a horizontal manner, it will be found that the pieces of clay, one after another, fly off in straight lines from the rim. The cause of this is, that each particular part of the rim of the grinding-stone, at every instant of its revolution, is describing a straight-forward movement, and has itself, from the revolutionary motion, a tendency to go straight on, and is only kept in its place by being fixed to the rest of the stone. Every bit of clay that flies off, receives, at the instant of its parting, the force of the straight-forward impulse which at that moment affected the part of the rim where it rested; and hence its going off in a straight line. It is to be observed, however, that the earth immediately begins to act upon the flying piece of clay, and draws it downwards to itself in a bending line, its last movements being in fact a part of a circle. This is the power of attraction, which, in this case, is exercised in much greater force by the earth than by the grinding-stone; were the grinding-stone the sole mass of matter near by, and the opposing force of the atmosphere withdrawn, we should see the clay begin to fly round the stone in a circular course.

And this naturally brings us to consider the comparative powers of attraction exercised by different objects. A large mass has a much greater power of attraction than a small one. When two of unequal bulk are brought near each other, we shall only be sensible, perhaps, of the large one drawing the small one to it, and see no attractive power in the small one whatever. In reality, each mass, however small in comparison, exercises a certain degree of attractive power; and this power will depend expressly upon its relative bulk and density, according to fixed regulations of the nicest kind.

One great and important law presides over the attraction which one mass exercises over another. This relates to the *distance* between the two masses. We shall suppose two globes of unequal size. When the small one is removed to as great a distance from the large one as there is space between the surface of the large one and its centre (that is to say, the distance of a semi-diameter of the large one), the attractive force is diminished one-half. When it is removed to twice that distance, or two semi-diameters, the attraction is diminished to a fourth. When it is removed to the distance of three semi-diameters, the force is lessened to a ninth; to four semi-diameters, a sixteenth; to five, a twenty-fifth, and so on; the diminution being always as the squares of the amount of semi-diameters of distance, or these sums multiplied by themselves. The moon is distant from the earth sixty of the earth's semi-diameters; consequently, the attractive power exercised by the earth over the moon is only a 3600th part of what it would exercise at its surface.

In the revolution, then, of a planet round the sun and of a satellite round a planet, there are various forces at work, all of them in the nicest proportion to each other, and to the mass of each body. There is first the amount of motion resulting from the original impulse; then the amount of attraction exercised by the central and larger over the smaller orb—the one pulling outwards and the other pulling inwards, but both in union attended with the result of a circular or revolutionary motion.

Gravity has not the same force at all parts of the earth's surface. At the equator the centrifugal force produced by the rotating motion is greatest; it declines in both directions towards the poles. In proportion as the centrifugal force is greater, the attractive power of the mass of the earth is less, for the first of these forces is directly counteractive of the other. There is of course least attractive power at the equator; and bodies are there drawn with less force towards the centre of the earth than would be found to be the case elsewhere. Yet this difference is not great, for even at the equator the attractive force is 288 times that of the centrifugal. Neither does the difference tell in the weighing of objects, for in that case two equivalents are used, and if a certain object is lighter, so also is the weight put into the opposite scale. The difference was first detected, in consequence of pendulum clocks being found to go slower as they were brought towards tropical latitudes. It was ascertained that the pendulum of a clock which went right at London, required to be one-eighth of an inch shorter (by which means its motion was accelerated) when it was placed upon the equator. This effect, however, is not altogether owing to the increase of centrifugal force, but partly also to the greater distance of the equator from the centre. And it was from a speculation as to the slower movements of pendulums at the equator, that Sir Isaac Newton first conceived the idea of the spheroidal form of the earth, which he ascertained to be of less diameter at the poles than at the equator, as 229 is to 230, or by twenty-six miles.

The orbits of the planets, it has been already seen, are not strictly circles, but rather ellipses, the sun being in each case placed in one of the *foci*, that is, the centre of one end of the ellipse. How should this circumstance affect the revolutionary motion? It might be supposed that, when the planet came to the part of its course where it is nearest to the sun, the attractive force would be greater, and that some derangement might take place. But this is not the case. At that part of the course the planet moves faster than elsewhere, and thus baffles the greater attractive force. This phenomenon is particularly apparent in comets, which have so eccentric an orbit. These bodies move with inconceivably greater speed when near the sun than in the remote parts of their orbits.

It was a discovery of the German astronomer Kepler, in the seventeenth century, that, notwithstanding the increased speed, a revolving orb goes over exactly the same amount of its circuit as when it moves more slowly. Suppose a multitude of lines radiating from the sun, at equal distances from each other, the orb would be found to cross from one to another of these, in exactly the same time, when it was *farthest* from the sun as when it was *nearest*. In scientific language, it describes equal areas in equal times.

Another discovery of Kepler established that there is a relation between the times respectively required by the planets for their revolutions, and their various distances from the sun. At a first glance, we are struck by the fact that the periods of revolution increase more than in proportion to the distances. For example, the period of Mercury is about 88 days, and that of the Earth 365, being in proportion as 1 to 4.15 (or about 4 1-7th), while their distances, respectively 37,000,000 and 95,000,000 of miles, are in the less proportion of 1 to 2.56 (or a little more than 2½); and a similar remark holds good in every instance. If we take the squares of the distances, we arrive at nothing satisfactory, for it considerably exceeds the proportion of the periods. If, however, we take the squares of the periods of two planets, we find they are in exactly the same proportion to each other as the *cubes* of the mean distances. Some may find a difficulty in understanding the nature of this calculation; but its ingenuity and its results form one of the highest boasts of astronomical science. "When we contemplate," says Sir John Herschel, "the constituents of the planetary system from the point of view which this relation affords us, it is no longer mere analogy which strikes us—no longer a general resemblance among them, as individuals independent of each other, and circulating about the sun, each according to its own peculiar nature, and connected with it by its own peculiar tie. The resemblance is now perceived to be a true *family* likeness; they are bound up in one chain—interwoven in one web of mutual relation and harmonious agreement—subjected to one pervading influence, which extends from the centre to the farthest limits of that great system, of which all of them, the earth included, must henceforth be regarded as members."*

* Treatise on Astronomy, 1833.

The solar system, though composed of many different masses distant from each other, is to be considered with respect to other masses as *one mass*, having a centre of gravity, by which its position with respect to other masses is regulated. The nearest stars no doubt exercise the force of gravitation upon it, so as to keep it in its position; and it also acts in the same way upon them. It is therefore not strictly correct to speak of the solar system or any part of it as *suspended* in space, for that term implies a hanging from a fixed point. It is in reality kept at its place by attractive influences exerted all round it by other masses. In like manner, we are to suppose our star-cluster as poised by the same forces in the midst of other clusters; and these again poised by others—an idea which leads us on and on through the fields of infinity, till the mind loses itself in an effort beyond its finite powers, and pauses contented to wonder and adore!

DIURNAL AND ANNUAL MOTION OF THE EARTH.

The earth is to be considered as a globe of nearly 8000 miles in diameter, performing a rotatory motion on its axis once every twenty-four hours. This motion is at the rate of 1042 miles an hour to places at the equator, but only 644 miles at London, and a gradually diminishing amount in places nearer to the poles.

From the situation of the earth with respect to the sun, it necessarily follows that only one-half of its surface should be exposed at a time to the light and heat diffused from that body. This is the case with all the planets. When any one part of the earth is presented to the sun, it is day at that part, and all the other heavenly objects are lost in the blaze of the great luminary. When, on the contrary, any part is averted from the sun, it is dark at that part, and the light of the stars is allowed to tell upon our organs. Each part is thus brought once every twenty-four hours towards the sun; in short, this is the cause of what we familiarly know as day and night.

There is a minute difference between the *civil* or *legal day* and what is called the *sidereal day*. The entire orb of the earth in reality revolves in 23 hours, 56 minutes, 4 seconds, or 3 minutes, 56 seconds, less than 24 hours. This is called a sidereal day, because the earth is then in the same relation to the stars as it was the day before. The fixed stars are so immensely distant from our earth, that its whole orbit is in respect to them but a point; so that no sensible difference is produced by its revolving round the sun. But the sun being much nearer us, any movement made by the earth can be appreciated. The time which elapses from the sun's being on the meridian of any place to its returning to the same spot next day, is exactly 24 hours, and is called an astronomical day. The natural day would always be the same as the sidereal day, if the earth had no other motion than that upon its axis. But in the same time that it has performed one of its daily revolutions eastward, it has also advanced about a degree westward, or in the opposite direction, which is the course it takes round the sun; so that, before the sun can shine exactly upon the same meridian, the earth must make up as it were its lee-way, and this it does in 3 minutes, 56 seconds, the difference of time between a natural and sidereal day. If the earth, then, had no other than its diurnal motion, we should have 366 days in the year.

When any spot on earth comes directly opposite to the sun, it is noon at that spot, and at every place in the same longitude. At the same moment, it is an hour before noon at the meridian of longitude fifteen degrees to the west of the same spot, and an hour earlier for every fifteen degrees farther to the west; because, as the earth moves from west to east, it requires so much time to bring those places to the same point, namely, opposite to the sun. In like manner, it is an hour after noon for every fifteen degrees to the eastward of the spot where it is noon, because at those places the sun has already been for so many hours past meridian. Thus the hour of the day varies in every part of the globe where the longitude or meridian line is different. When it is twelve o'clock noon with us in any particular part in Britain, it will be twelve o'clock at midnight in a corresponding point on the opposite side of the globe, near New South Wales; and the intermediate hours, sooner or later, will all lie in the countries between these two points, exactly according to their position or degrees of longitude.

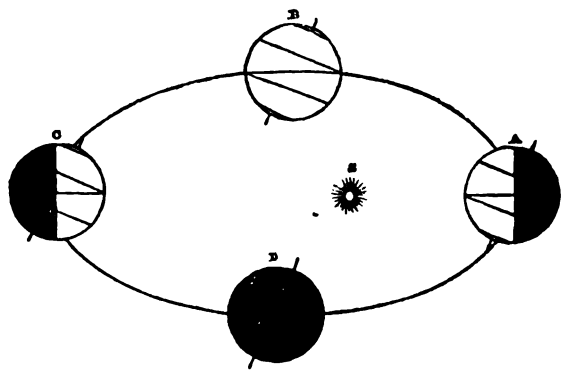


Illustration of the Seasons.

The earth is at a mean distance of 95,000,000 of miles from the sun, and performs its revolution round him in a sidereal year, which is 365 days, 6 hours, 9 minutes, 11 seconds, mean solar time. The earth travels at the rate of 68,000 miles per hour. Its orbit is, as already stated, not a circle, but an ellipse, the sun being situated in one of the foci, that is, not in the centre, but near one of the ends of the oval-shaped figure. Neither does the earth go round the sun in an upright or perpendicular position; its axis is slanting or oblique. The degree of obliquity is 23 degrees 28 minutes. The points at which the ecliptic cuts the equator, are called *nodes*: the period of time at which it does this, the *equinoxes* (a Latin term, signifying equal nights, for the days and nights are then of equal length all over the world). In consequence of this obliquity, during one part of the earth's course the north pole is turned towards the sun, and the south is dark; and during another part of its course, the south pole is turned to the sun, and the north is dark; and this is the cause of the difference of seasons, which will be better understood by referring to the above figure.

THE SEASONS.

Let S represent the sun, and A B C D the earth at various places of its annual circuit; when the earth is at B or D, these are the periods of the equinox, when the line of the equator intersects or cuts through the line of the ecliptic. At this period, one-half of the globe is illuminated from pole to pole, or there is over all the earth an equal day and night of twelve hours. But when the earth has proceeded to A, the pole or axis still keeping the same position, or pointing to one particular place in the starry heavens, it will be turned more directly from the sun; a greater proportion of his rays will shine on any particular spot of the southern half of the globe, and the period of day, or sunlight, will exceed that of darkness by the proportion of the light and shade parted in the circle of the earth. It will be observed, also, that within the circle of the south pole, the sun will shine continually as the earth revolves on its axis, or, in short, to the inhabitants of that part of the globe the sun will never set for several months. When the earth has proceeded on to D, one-half of its annual course is finished, or this is the spring equinox, or equal day and night. At C, again, the earth has arrived at our longest day in summer, when the axis is turned to the sun, and the regions around the pole are in the light for a greater period, while darkness, or night, prevails for a less. It will be seen, too, that now the pole and circle around it revolve in perpetual light; or to the inhabitants of that region, the sun never sets for some months, but they have one continued and uninterrupted day. At the other, or south pole, the same changes take place, only matters are reversed—there it is summer while we have winter, and the winter of the north pole is the summer of the south. In the middle regions of the earth, or around the equator, the sun's place does not suffer a very great change; and, accordingly, there the heat is nearly of the same intensity all the year through; and the length of their days and nights is nearly equal, or nearly the same as at the periods of the equinoxes. But the orbit in which the earth travels round the sun is not an exact circle; it is, as we have already mentioned, an ellipse, and the sun is placed near one end of it, as at the small circle and letter S. In consequence of this circumstance, the sun is much nearer us at one period of the year than another, and this happens in our winter; accordingly, the sun appears about one-thirtieth part larger in January than in June. But in proportion as the earth approaches in her orbit to the sun, her motion is quickened, and she passes over the winter half year in nearly eight days' less time than the summer. It is principally from this circumstance, as well as the shorter period of the day, that although the sun be nearer us in winter, and consequently his power of imparting heat greater, yet the actual quantity imparted is, on the whole, much less in the one season than the other. We have said that the north pole of the earth always points to a particular spot in the heavens; this is not, strictly speaking, correct; the pole or axis makes a circle round the centre of the axis of the ecliptic in a long period of years, and it is this motion that gives rise to the precession of the equinoxes, which will be afterwards described under that title.

ABERRATION OF LIGHT.

Although the most convincing proof of the earth's orbitual motion is not to be found in any circumstance of which the senses can take immediate cognisance, but is afforded by the full development of the planetary system, there is, however, one direct proof of it in a phenomenon discovered by Bradley, an illustrious astronomer. It is called the aberration of light, and is manifested by a small difference between the apparent and true places of a star, occasioned by the motion of light combined with that of the earth in its orbit. Vision, it is well known, arises from rays of light proceeding from any object, and entering the eye; and we see the object in the direction in which the rays have come. If both the body giving forth light and that one which receives it be at rest, the former will be seen in its true place, at least in so far as aberration is concerned; but let either of the bodies move, and this will not be the case. In order to render this plain, suppose a shower of hail to fall perpendicularly upon a number of tubes —say the pipes of an organ; if the organ remain stationary, the hailstones will descend sheer from the top to the bottom, without any deviation right or left; but move the organ in any direction, and they will strike the side opposite to the direction in which the motion is made. Now, it is just in this way that the eye misses the perpendicular ray, and, meeting an oblique one, receives an impression that the star lies in that direction. The object thus appears displaced, and the amount of displacement is *aberration*. The earth travels at the rate of about nineteen miles per second, and therefore is every instant changing its direction. Time is also occupied by light in traversing space, which it does at the amazing rate of 192,000 miles per second; so that also requires to be calculated for by astronomers. The effect of aberration is to make a star apparently describe a small ellipse in the heavens, in the centre of which it would be seen if the earth were motionless. The reader must carefully distinguish between aberration and refraction; their effects are the same—namely, to displace the ray-projecting object—but they proceed from very different causes. Besides these corrections which astronomers have to make in their calculations, there is another, resulting from what is called parallax, which may be as well introduced in this place.

PARALLAX.

The word parallax, in its general signification, denotes change of place; but in astronomical books it has a conventional meaning, and implies the difference of apparent positions of any heavenly luminary when viewed from the surface of the earth and from its centre. The centre of the earth is the general station to which all astronomical observations are referred; the situation of a heavenly body, observed from the surface of the earth, is called the apparent place; and that at which it would be seen from the imaginary place of observation at the centre of the earth, the true or mean place. Hence the altitudes of the heavenly bodies are depressed by parallax, which is greatest at the horizon, and decreases as the altitude of the object increases. This may be rendered very plain, by supposing that two persons placed individually at the end of a straight line, look at a candle removed at, say, 100 yards' distance from them. It is evident that the burning body will appear to be projected upon the wall of an apartment, or any other background, at very different positions to each of the spectators. The angle which this difference of position makes is similar to parallax. The farther they remove from the light, allowing them still to remain at the same distance from each other, the more obtuse the angle would become, and the less the parallax. Thus, the fixed stars, being so far removed from us, when viewed from any two positions upon the earth's surface, are seen at the same place upon the celestial sphere, and hence have no perceptible parallax. It is different, however, with the luminaries belonging to our system; and by this means astronomers have been enabled to estimate the quantity of space which separates us from them. For a complete account of the means by which this is accomplished, we must refer the reader to more elaborate treatises than the present. A general and correct enough idea of it may be formed from the familiar example we have given. In the same manner, suppose two observers, one in the northern the other in the southern hemisphere, at stations on the same meridian, observe on the same day the meridian altitudes of the sun's centre. "Having thence derived the apparent zenith distances," says Sir J. Herschel, whose language would be deprived of clearness were it abridged, "and cleared them of the effects of refraction, if the distance of the sun were equal to that of the fixed stars,

the sum of the zenith distances thus found would be precisely equal to the sum of the latitudes north and south of the places of observation; for the sum in question would then be equal to the meridional distance of the stations across the equator. But the effect of the parallax being in both cases to increase the apparent zenith distances, their observed sum will be greater than the sum of the latitudes by the whole amount of the two parallaxes. This angle, then, is obtained by subducting the sum of the latitudes from that of the zenith distance; and this once determined, the horizontal parallax is easily found, by dividing the angle so determined by the sum of the signs of the two latitudes." It may be observed, that the angles are determined by means of very nice instruments. The parallax thus obtained is called the *daily* or geocentric, in contradistinction to the annual or heliocentric, by which, in general, is understood the difference of place of a heavenly body, as seen from the earth and from the sun; in particular, however, it denotes the angle formed by two lines from the ends of the diameter of the earth's orbit to a fixed star, which, as we have already observed, from the immense distance of the latter, is inappreciable. Some idea of the importance of parallax may be obtained from the fact, that before the sun's was determined, the distance of that luminary from us was not estimated at within 13,000,000 of miles of its true amount. Its parallax is, of course, a very minute quantity, only 8″ 6.

OF SOLAR, SIDEREAL, AND ANOMALISTIC YEARS.

There are three different periods at which the sun may, in different senses, be said to return to the same position—when he returns to the same equinox at which he was before; when he returns to the same point in his orbit, or the ecliptic; and when, being in perigee (least distance from the earth), or apogee (farthest distance from the earth), he comes back to either again; or, which is the same thing, when, having been at a given distance from any of these points, he returns to the same point with respect to them. Each of these may be said to be a completion of the revolution of the sun (strictly speaking, it is a revolution of our own earth round him), and a revolution thus performed is called *a year*. The first and shortest is the equinoctial, solar, or tropical year; for his time of returning from tropic to tropic, they being situations holding the same relation to the equinox for the time being, is obviously the same as that from equinox to equinox. The value of this year is 365 days, 5 hours, 49 minutes, nearly. But although the earth has thus returned to the same equinox, it has not made the entire circuit of its orbit, but must travel a little farther to arrive at the same point it was in a year before. This arises from a backward movement of the equinoctial point. (See "Precession of the Equinoxes.") The second is the sidereal year, which consists, as we said before, of 365 days, 6 hours, 9 minutes, 9 seconds, 6, reckoned in mean solar time, or *a day more*, reckoned in sidereal time. Here, then, there is a remarkable difference between solar and sidereal time, which requires explanation. If the reader will recollect what was said with regard to a solar and sidereal *day*, the discrepancy between the times of the years will become apparent. In the course of twelve months, all the little daily deficiencies, as it were, amount to twenty-four hours, which constitutes the difference between the two years. The sun's apparent annual motion among the stars is performed contrary to the apparent *diurnal* motion of the sun and stars; hence the stars gain every day three minutes fifty-six seconds on the sun, which makes them rise that portion of time earlier every day. In the course of a year, the sun will fall behind the stars a whole circumference of the heavens, or one revolution, which deficiency he must make up to complete the number of days in a year. It is evident, then, that *the sun apparently, or the earth really, turns 366 times round upon its axis; and had it no other motion, there would be as many days in a year. After the earth or sun has completed a sidereal year, before it can finish an anomalistic year, it must describe a farth* 11″ 8 to arrive at its original position in perih latter having moved forward to that amount doing it occupies 4′ 39″ 7, which must be add sidereal period, making the anomalistic year 3(hours, 13 minutes, 49 seconds, 3, in length. periods have their uses in astronomy; but th which mankind are most particularly interest tropical year, or that on which the seasons de which is a compound phenomenon, dependin and directly on the annual revolution of the ear the sun, but subordinately also, and indirectl rotation round its own axis.

MEASUREMENT OF TIME.

Although the sidereal day, from its uniformit adapted for astronomical purposes, yet it is sufficiently marked for the ordinary wants of person but an astronomer ever attends to the tion of a star; on this account, the diurnal r the sun to the same meridian has been un adopted as the measure of time; and this is *civil day*. Most nations reckon the beginning day from midnight, but astronomers count fr to noon. The day thus determined is called t nomical or solar day, and, being regulated by motion of the sun, the time which is measure called true or apparent time. Two causes co render astronomical days unequal; first, the velocity of the sun in his orbit, and, second, the of the ecliptic. A mean astronomical day, wh dependent of any causes of inequality, has been by astronomers introducing into the system t ginary suns. These two fictitious bodies are to move uniformly, the first in the ecliptic, th in the equator; and as the circles are both ec actual motion of each of the bodies is equal. desirous of studying this part of the subject, w recommend a perusal of the article *Astronom* seventh edition of the Encyclopædia Britanni 778, where it is well illustrated. The correction tion, by which apparent time is reduced time, is technically called the *equation of time.* are only four days in the year when the appa mean time are the same, and the equator nothing. In the interval between the first an of these, that is, December 24th and April 15 again, in that between the third and fourth, June 15th and September 1st, the apparent i later than the mean time, or the clock is before in the other intervals which complete the year verse is the case, and the clock is after the su greatest difference between solar and true time to between fifteen and sixteen minutes. T equation are constructed for the purpose of co the differences.

THE MOON.

Next to the sun, the moon is to the inhabi the earth the most remarkable and importar the heavenly bodies. The mean horizontal of the moon is 57′ 43″; and her mean distance earth 236,847 miles. Like the sun, the moon a in the heavens in a motion contrary to that of t Notwithstanding the vast distance she is from little more than one-fourth of the sun's diamet the globe of that magnificent luminary would *twice* include the whole orbit of the moon! various motions; as a secondary planet, it round the earth, which is its primary. Along latter, it revolves round the sun, and it has a motion upon its own axis. Owing to the sun's a movement in the heavens being in the same d with that of the moon, only slower, the latter make up for that slowness in the same way as mentioned with regard to the earth, and the takes constitutes the difference between the sider synodic month or lunation. The sidereal mont days, 7 hours, 43 minutes, 11 seconds, 5, in wh

...ily coincide, but cross or intersect each other; and ...consequence is, that, in general, the moon, when she ...conjunction with the sun, either passes on one side ...the other, and therefore does not intercept the sun's ...s, or produces an eclipse. An eclipse of this kind ...only take place when the earth and moon are in ...junction in that part of their orbits which cross each ...er (called the nodes), because it is then only that ...y are both in a right line with the sun. If the orbit ...the moon were parallel to that of the earth, an eclipse ...ld happen every month. Partial eclipses, again, ...ensue when the moon, in passing the earth, is not ...actly in a line with the sun, but a little on either ...; the consequence of which is, the edge of one side ...the moon only dips into the sun's disc. When the ...is eclipsed, the total darkness is confined to one ...ticular part of the earth, but the lunar eclipses can ...seen from every part of the earth, when the moon ...above the horizon; and both circumstances prove ...t the earth is a good deal lower than the moon. The ...on arrives very nearly at the same situation with ...spect to the earth, after making 223 revolutions, ...ich are performed in eighteen years, of 365 days, ...hours, 7 minutes, and 43 seconds, each; so that, ...er a period of about eighteen years, the series of ...ipses recommences nearly in the same order, a circumstance observed by the ancients. The mean number ...eclipses which occur in a year is about four, and there ...sometimes as many as seven. There must necessarily be two solar eclipses, but it is possible that there ...may not be even one lunar. A remarkable eclipse, ...lled an annular (or circular) solar eclipse, happens ...en the moon being in conjunction with the sun, the ...ge of the latter appears for a few minutes as a narrow ring of light encircling all round the dark disc of ...e moon. A great solar eclipse, visible in England, ...ll take place in March 15, 1858, and a still more ...markable one, when the whole disc will be nearly ...vered, in August 19, 1887.

THE SATELLITES.

The earth, we have seen, is attended in her annual ...rcuit round the sun by one satellite, the moon, which ...volves round her as a centre. Strictly speaking, both ...ve round a common centre of gravity in an elliptic ...bit, the regularity of which is disturbed by their ...utual attractions, so that it is undulated or waved, ...us, ——. The number of undulations in a whole ...volution is, however, only thirteen, so that the de...ation from the ellipse is exceedingly trifling. Jupi...r, Saturn, and Uranus, are all attended by satellites, ...we have seen; and they form, as it were, each of the ...imaries with its attendant moons, a sort of miniature ...stem, entirely similar in the laws by which they are ...verned to the great system to which they all belong, ...here the sun may be termed the primary planet, and ...e primary planets the satellites. Their orbits are ...rcles or ellipses of small eccentricity, the primary ...ccupying one focus. Of these systems, that of which ...upiter forms the head, has been studied with the ...reatest attention. The discovery of Jupiter's satellites ...y Galileo, was one of the first fruits of the invention ...the telescope, and forms a remarkable era in the ...story of astronomy. From it resulted a solution of the ...reat problem of the longitude, and the grand discovery ...the aberration of light. It also established completely ...e Copernican system, and confirmed the laws of Kepler. ...he satellites of Jupiter revolve from west to east like ...ur moon, but they are much less in comparison with ...eir primary than it, whilst their orbits are of smaller ...imensions, and less inclined to the ecliptic of their ...rimary than that of our satellite. The largest of them ...about 3377 miles, and the least about 2068 miles in ...iameter. The satellites of Saturn have been much less ...udied, and have fewer peculiarities. Those of Uranus, ...owever, are remarkable, inasmuch as their orbits are ...early perpendicular to the ecliptic, and in these orbits ...ey are supposed to have a retrograde motion—that ...from *east* to *west*, instead of from west to east, like

the other planetary bodies. No satisfactory cause for this departure (if it be one) from the general rule can be given. It is by accurate observation of the satellites that the densities of the planets, or their weight as proportioned to their bulks, have been ascertained; as also, by watching their frequent eclipses, that the velocity with which light travels from the heavenly bodies to the earth has been brought within our calculation.

PERTURBATIONS.

The name of *perturbations* has been applied to those inequalities in the lunar and planetary motions, which arise from the universality of attraction. Thus, not only does the sun attract the earth, and the earth the moon, but the latter attracts the preceding, and both are again influenced in their movements by the great centre of the system to which they belong. Not only is this the case, but every individual planet in the system attracts, and is attracted by, all the rest, although certainly in a very trifling degree when compared with that exercised by the sun over the whole of them. But in those miniature systems, such as the moon and earth, Jupiter and his satellites, &c., the perturbations thus arising, though insensible in short intervals, become apparent when accumulated, and derange the elliptic motions and relations. The calculation of the effects of these disturbing forces is famous in the history of analysis, under the name of *The Problem of the Three Bodies*. It is so worded, because the Sun, Moon, and Earth, and the Sun, Jupiter, and Saturn, form each separately a system little influenced by the rest. Any thing like an attempt to exhibit the method by which these nice calculations are made, is impossible in this place: of its difficulty, some idea may be formed, when we consider, what is apparent to every one, that the bodies under investigation are continually shifting their relative distances from each other, and altering the intensity of the disturbing force, which evidently must materially increase the abstruseness of the calculation. One of the principal effects produced on our globe by this play of gravitation is called

THE PRECESSION OF THE EQUINOXES.

The equinoctial points, we have already explained, are Aries and Libra, where the ecliptic cuts the equator. They are also termed nodes, and the line which joins the two is called the line of the nodes. The longitudes of the stars, as has been also observed, are counted on the ecliptic from the vernal equinox Aries. Now, if the line of the nodes is invariable, the longitude of the stars will of course remain the same from age to age. But, on comparing the actual state of the heavens with the recorded observations of ancient astronomers, it is perceived that the longitudes of the stars have considerably increased; so that, to explain the circumstance, we must either suppose that the whole firmament has moved in the order of the zodiacal signs, or else that the equinoctial points have gone backwards, or retrograded westward: since these points depend entirely upon the motion of the earth, which was far more likely to be disturbed by some cause or other, than that the countless multitude of stars should have a motion relative to these points. Accordingly, the phenomenon has been explained, by attributing to them a retrograde motion from *east* to *west*, in consequence of which the sun arrives at them sooner than if they had remained at rest. Hence the equinoxes, spring and autumn, and the other seasons, happen before he has completed an entire circuit. This motion, however, is extremely slow, amounting only to a degree in about seventy-six years; so that the equinoctial points will take nearly 26,000 years to make an entire revolution of the heavens. This motion was known in very ancient times, and its discovery is ascribed to Hipparchus, who lived about *140 years before Christ*. The consequence of this *retrograde movement is, that the sun's place amongst the zodiacal signs, at any season of the year, is greatly different from what it formerly was*. The vernal equinox now happens in the constellation Pisces; summer solstice in Gemini; the autumn equi Virgo; and the winter solstice in Sagittarius. nomers, however, still count the signs from the equinox, which always corresponds to the inter of the ecliptic with the equator; and on this acc is necessary carefully to distinguish between the

The cause of precession is to be found in th bined action of the sun and moon upon the protu mass of matter accumulated at the earth's equat attraction of the planets being scarcely sensible. attracting force of the sun and moon upon this s matter, is of a twofold character; one is parallel equator, and the other perpendicular to it. Th dency of the latter force is to diminish the angle the plane of the equator makes with the ecliptic were it not for the rotatory motion of the ear planes would soon coincide; but by this moti planes remain constant to each other. The effe duced by the action of the force in question is, ho that the plane of the equator is constantly, t slowly, shifting its place in the manner we ha scribed.

NUTATION.

The action of the sun and moon in producin cession is various, at different periods of the ye cording to the relative distance of the earth from Twice a-year, the effect of the sun in producin nothing; and twice a-year, namely, at the sol it is at maximum. On no two successive days alike, and, consequently, the precession of the noctial points must be unequal, and the obliqu the ecliptic subject to a half-yearly variation; f sun's force, which changes the obliquity, is va while the rotation of the earth, which countera is constant. By this means, the plane of the e is subject to an irregular motion, which is techi called the *solar nutation*. Its amount, however, exceedingly small, as not to be appreciable by vation. That resulting from the moon's action, ever, is sufficiently so, as to have been discover Bradley before theory had indicated its existence period depends upon the revolution of the n nodes, which is performed in 18½ years, and in that period of time the axis of the world descr small circle in the heavens, about eighteen seco diameter, contrary to the order of the signs. apparent vibratory motion is denominated the tion of the earth's axis. The two phenomena o cession and nutation are intimately connected, or are constituent parts of the same phenomenon dependent upon the same cause, as noticed above Precession. It is impossible here to enter more mi into the subject, or explain it more in detail. F admirable account of it, we refer the reader to schel's Treatise on Astronomy, p. 353. We also direct the inquirer to the same admirable wo further information upon the subject of perturbs comprising all the complicated varieties of motion general, they may be said to arise from the p attractions kept up by the whole of the planets an themselves, they with the sun, and the sun with the distances of the bodies from each other, whi always varying; and the masses of matter, an shape of the bodies, which are invariable. In co ing this part of our subject, we may remark, tha by means of the perturbations of these planets have no satellites, that astronomers have arrive knowledge of their masses. Every planet produ amount of perturbation in the motions of any proportioned to its *mass*, and to the degree of a tage or *purchase* which its situation in the system it over their movements.

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GEOLOGY.

Basalt.—The Giants' Causeway.

ION I. EXPLANATIONS—ORDER OF ROCKS.

LOGY (from the Greek, *ge*,* the earth, and *logos*, ɔurse) may be defined as the science which describes solid materials of the earth, the order in which are arranged, the causes which have effected that ngement, and the organic remains which are found hem. The investigations of the science are, in ent circumstances, limited to the external crust of earth.

he solid parts of this crust consist of a variety of tances, to which, whether they be hard or soft, the ı *rock* is applied. Rocks are distinguished both by liarities in their constitution, and peculiarities in r form and arrangement.

t some places the surface of the earth is found to ist of a hard rock, of crystalline or glassy tex-, generally called granite, though subject to a con-rable number of varieties. Granite is never, except eculiar circumstances, found in the form of a layer, ther thick or thin, but generally in large irregular-ɔed masses, and no other kind of rock, except in lly rare and peculiar circumstances, is ever found ɛath it.

t other places the earth's immediate surface is ıd composed of some one of certain kinds of rock less hard in texture than granite, and also of a talline consistence, but always found *in layers or* , generally of great thickness.

t other places, we find, near the surface of the h, rocks of a comparatively soft, and not of a talline consistence, forming also layers or beds, reater or less thickness.

a some places, rock of a very hard kind is found, exactly like any of the above, deposited in irregular forms, and often with the appearance of having penetrated through gaps forcibly made in other rocks.

Finally, throughout the three first classes of rocks, but particularly the two first, there are thin *veins*, of diverse substances, including minerals.

Rocks of the first class are denominated PLUTONIC (from *Pluto*, the god of the infernal regions amongst the ancients), as supposed to have been formed at great depths in the earth, the matter having been originally in a hot and soft state, and afterwards cooled and crystallised slowly, under such enormous pressure as prevented the contained gases from expanding. The term *unstratified* is also applied to this class of rocks.

Rocks of the second and third classes are called AQUEOUS, as composed of matter deposited by water. Those of the second class are more specially named *Metamorphoric* (from the Greek, *metamorphosis*, a transformation), as supposed to have undergone a remarkable change in the course of their formation. It is supposed that the matter of these rocks, derived from rocks of the granitic kind, and suspended in vast oceans, was, when deposited, subjected to a great heat from below, which gave it in its reconsolidation much of that crystalline texture which it had in its plutonic form.

Rocks of the fourth class are denominated VOLCANIC, as being evidently composed of lavas, or masses of fire-melted rocky matter, which have been sent upwards by volcanoes.

Rocks of the second and third classes are likewise called *Stratified Rocks*, as being invariably found in strata or layers. Rocks of the first and fourth classes, as wanting this peculiarity, are distinguished as *Unstratified Rocks*.

The plutonic, and some of the lower metamorphoric rocks, have been also called *Primary*, or *Primitive Rocks*, as either the first formed of all, or formed very early. The upper metamorphoric rocks have in like manner been called the *Transition Series*, as forming a kind of link between the primary and those which follow, and partaking of the characters of both. Of the remainder of the aqueous rocks, a considerable number, being the lower portion, are sometimes called the *Secondary Rocks*, while the upper are named *Tertiary*. *Igneous Rock* is also a various name for the volcanic kind.

When rocks of various classes are seen at or near the same place, it is found that those of the second (except in the extraordinary circumstances alluded to) lie above those of the first; and those of the third above those of the second and first classes. Special kinds of aqueous rock are also found in a certain order above one another—much in the same way as if we were to place a book of many volumes on its side, having previously arranged the volumes according to their numbers, in which case the second would be above the first, the third above the second, and so on. Rocks are thus said to observe an *order of supraposition*—the volcanic kind alone observing no order.

* The *g* is pronounced hard, and the *e* as in *get*.

In some of the upper metamorphoric rocks, and in all those of the secondary and tertiary series, remains of plants and animals are found, showing that when these rocks were formed, the earth had become a scene of vegetable and animal life. The rocks containing these *organic remains*, or *fossils*, are called FOSSILIFEROUS; and the remaining rocks, from their containing no such relics, are called NON-FOSSILIFEROUS.

Above the harder rocks, there are generally layers of clayey and earthy matter, topped by what is called the vegetable soil.

The principal rocks, exclusive of the volcanic, are ranged in the following order, descending from the highest to the lowest:—

Fossiliferous.		SUPERFICIAL.
	Aqueous.	Vegetable Soil.
		Peat.
		Gravel Beds.
		Blue Clay Beds.
		TERTIARY.
		Marl Beds.
		Shelly Millstone.
		Gypsum.
		Coarse Limestone.
		Plastic Clay.
		SECONDARY.
		(*Chalk Group.*)
		Chalk.
		Greensand.
		Weald Clays.
		(*Oolitic Group.*)
		Oolite.
		Sandstones.
		Lias.
		(*New Red Sandstone Group.*)
		Variegated Marls.
		Muschelkalk.
		Variegated Sandstones.
		Zechstein.
		Red Conglomerate.
		Rock Salt.
		(*Carboniferous Group.*)
		Coal.
		Sandstone.
		Shale.
		Mountain Limestone.
		Old Red Sandstone.
		TRANSITION.
		(*Grauwacke Group.*)
		Grauwacke.
		Clayey and Sandy Slates, or Lowest Fossiliferous.
Non-fossiliferous.		PRIMARY.
	Metamorphic.	(*Inferior Stratified Series.*)
		Clay Slate.
		Mica Slate.
		Primitive Limestone.
		Protogine.
		Gneiss.
		(*Granites.*)
	Plutonic.	Granite, in varieties.

Whatever rock, then, appears on or near the surface, if it be not of the volcanic kind, we may form from it some notion of what rocks are, and are not, below. If, for instance, we any where find one of the rocks of the tertiary series, we may deem it almost certain that rocks of the secondary, transition, and primary series, would be found in succession downwards, if we could dig to the proper depth. If we find rocks of the secondary series, it is equally likely that transition and primary rocks are below, and so on. The same conclusions may be formed respecting special kinds of rock of the various classes: if, for instance, we find at the surface a particular member of the secondary series, we may know that certain others of the same series are below. What alone prevents this rule from being of constant application, is the fact, that in no place does every member of the whole series of known exist. Every where some are wanting: in Fran example, transition rocks are in many places wa The rule, nevertheless, is certain with respect rocks which do exist at any place.

The order of supraposition enables us to co with greater certainty as to the absence of all higher in the list than that which we find at th face. If we find secondary rocks at the surfa may be certain that none of the tertiary are the transition, none of the secondary or tertiary; if pri none of the transition, secondary, or tertiary.

SECTION II.—CAUSES OF ARRANGEME

The whole science of geology rests on certain n laws, which are supposed, or have been ascertain be in constant operation, though not always, pe with equally powerful effects. They chiefly r themselves into what have been called *Degradi Elevating Causes.*

Degrading Causes.

The degrading causes are those which refer dissolving and wearing away of the elevated parts earth's surface, and the carrying of these parts dow lower levels. The *dissolving* is brought about by c chemical and mechanical laws, and the *carrying into low levels* is, in the main, a result of the gravitation. Considering that the solid parts earth are in their very nature liable to the opera these laws, it appears quite unavoidable that land be degraded. It is only, however, of late years th degradation of land has attracted any attention. immense scale on which it is constantly taking was first explained in a satisfactory manner Charles Lyell, in his "Principles of Geology," pub in 1830.

The causes of the degradation of elevated lan be considered under three heads—*meteoric*, or connected with the atmosphere; *fluviatile*, or depending on rivers; and *oceanic*, or those in the sea is the immediate agent.

The operation of the atmosphere and its va contents upon the land proceeds in two ways, ch and mechanical. There is a tendency in the h rock to absorb oxygen and carbonic acid fro atmosphere, and to be by that union dissolved. this is an union which is always taking place, tho some places with more conspicuous effects tha where. If the soil on any hill of volcanic rock b mined, we shall first find a fine powdery earth, mixture of earth and splinters of rock; next sp alone, graduating into the hard rock below: suc be considered as an exhibition of the gradual p by which a hard rock is dissolved into powder or under the action of the atmosphere. In Jamaic dissolution of volcanic rock has taken place to depth. In granite, which is considered the har all rocks, one of the component substances (felsp a great tendency to be decomposed, and hence ev rock is sometimes found to have been reduced to or powder to a considerable depth. A hollow blasted through granite, was found by a geologist t been in six years pulverised to the depth of three These are solely *chemical* phenomena. Again, wat forates into minute fissures in rocks. When a fr rives, the water swells, and dislodges parts of the which are precipitated into the lower level. Or meet some clayey veins or strata, hitherto suffici keep various masses together. These veins or being gradually softened by the water, lose their cementing the masses. The upper then fall a slide into a lower level. A *slide* of rock from the berg, in Switzerland, in 1806, filled the bottom vale below, destroying many villages, and caus loss of 800 lives. The impulse of wind and rain surface of rock is also of great efficacy in pulve and wearing it down, sharp parts being rounde

soft parts hollowed. In Sweden there are some large detached masses of granite, containing perforations produced by this cause, some so very large as to admit of a horse and cart passing through them. These effects may be considered as chiefly *mechanical*. As surely, then, as any part of the earth's crust is elevated into the atmosphere, just as certainly is it liable to be worn down and carried into a lower level.

When water collects into channels and follows its well-known tendency to find the lowest level to which it has access, it becomes a mechanical instrument of still greater force for wearing down the land. In its smallest rills, as it descends the mountain side, it cuts into the soil, and carries off whatever particles it can disengage. When gathered into brooks, its operations are still more powerful. When one of these is placed amongst mountains, every heavy shower swells it into an impetuous river, by which large quantities of detached rock and soil are brought down. In the upper parts of the courses of almost all rivers, the greater speed of descent makes up for the smaller volume of water, as far as the power of bringing down stones and soil is concerned. Again, in the lower part of the course, the smaller speed is sometimes compensated by the unevenness of the course; in which case, the water is incessantly driven from one projection of the banks against another, and by that means wears away a great quantity of solid matter. Many facts have been collected to prove the great efficacy of rivers in wearing down the land. The Nerbuddah, a river of India, has scooped out a channel in basaltic rock, 100 feet deep. The river Moselle has worn a channel in solid rock to the depth of 600 feet. Messrs Sedgwick and Murchison give an account of gorges scooped out in beds of the rock called conglomerate, in the valleys of the Eastern Alps, 600 or 700 feet deep. A stream of lava, which was vomited from Ætna in 1603, happened to flow across the channel of the river Simeto. Since that time the stream has cut a passage through the compact rock to the depth of between 40 and 50 feet, and to the breadth of between 50 and several hundred feet. The cataract of Niagara, in North America, has receded nearly 50 yards during the last forty years. Below the Falls, the river flows in a channel upwards of 150 feet deep, and 160 yards wide, for a distance of seven miles; and this channel has manifestly been produced by the action of the river.

Sometimes, during floods, rivers produce great changes in very short periods. A flood caused by the bursting of the barrier of a lake in the valley of Bagness, Switzerland, moved at first with the tremendous velocity of 33 feet per second. From the barrier burst by the waters to Lake Geneva, there is a fall of 4187 Paris feet; the distance is 45 miles; and the water flowed over all this space in five hours and a half. It carried along houses, bridges, and trees; and masses of rock equal in size to houses, were transported a quarter of a mile down the valley.

The matter carried down by rivers is often deposited at their sides, when it constitutes what is called *alluvial land*. Sometimes it is deposited at the bottom of lakes, when it forms what are termed *lacustrine deposits*. In many instances it has been d[illegible] large quantities at the mouths of rivers, givi[illegible] to what are denominated *deltas*. Deltas are so [illegible]ed on account of their resembling the fourth letter of the Greek alphabet. The triangular form of a delta is produced by the river, at a certain point inland, dividing itself into two streams which gradually diverge till they reach the ocean, enclosing the space which constitutes the delta. As an instance of the great amount of new land formed at the mouths of rivers, the delta of the Ganges is 220 miles in one direction by 200 in another. The lower part of this delta, a wilderness inhabited by tigers and crocodiles, is as large as the principality of Wales!

The matter carried down by rivers, and thus deposited, is nothing in amount compared to that transported to the ocean. The quantity of sand and mud brought down by the Ganges to the Bay of Bengal, is in the flood season so great, that the sea is discoloured with it 60 miles from the river's mouth. According to Mr Lyell, the quantity of solid matter brought down by this river every day, is equal in bulk to the greatest of the Egyptian pyramids. According to Captain Sabine, the muddy waters of the Amazon river may be distinguished 300 miles from its mouth.

The constant action of the sea upon the land is strikingly apparent to the inhabitants of coasts. Whole islands have been destroyed by the action of tides and oceanic currents, while the remains of others rise above the surface of the water, like the ruins of some desolated city. Many instances of the encroachment of the sea upon the land have been recorded. An inn on the coast of Norfolk, built in 1805, then 70 yards from the sea, was, in 1829, separated from the coast by only a small garden. A church on the coast of Kent, which in the reign of Henry VIII. was a mile inland, is now only about 60 yards from the water's edge. The island of Nordstrand, on the coast of Schleswig, was, in the thirteenth century, 50 miles long and 35 broad. About the end of the sixteenth century, it was reduced to an area of only 20 miles in circumference. The inhabitants erected lofty dykes for the purpose of saving their territories; but in the year 1634 a storm devastated the whole island, by which 1340 human beings and 50,000 head of cattle perished. Three very small islets are all that now remain to point out the place where once flourished the fertile and populous island of Nordstrand. It is an old notion that Great Britain was once united to the continent of Europe; and the identity in structure of the opposite coasts of the strait of Dover seems to favour the supposition. There is reason to believe that the Island of Ceylon was at one period united to Hindostan. Humboldt is of opinion that the West India islands once constituted a circuit of land which enclosed the Gulf of Mexico.

It thus appears that there are causes in continual operation, for the wearing down of the elevated parts of the earth's crust, and taking the component particles into lower levels. The effects of these causes may be easily traced in the aqueous rocks, many of which are simply deposits of sediment carried by water from high into low places, and subsequently hardened, probably by heat from below and pressure from superincumbent materials. Were such causes not in some way counteracted, dry land could not long exist: all would be taken down and buried in the sea. We find the counteraction in what are termed the *Elevating Causes*.

Elevating Causes.

As Degrading Causes are chiefly owing to water, Elevating Causes are chiefly owing to fire. They are therefore sometimes comprehended under the term *Igneous Agency*.

The manifestations of igneous agency at present observable may be considered under three heads—namely, *volcanoes, earthquakes*, and *gradually elevating forces*. These phenomena may be viewed as the effects of subterranean heat, operating under different circumstances. A volcano may be described as an opening in the earth's surface, bearing the general appearance of a vent of subterraneous fire, and through which smoke, cinders, and ashes, are almost continually issuing, but which sometimes discharges great fragments of rock, and vast quantities of melted rocky matter. The general effect is a throwing up of earthy material from a low to a high level.

Geographers at present reckon about 200 volcanic vents in activity throughout the earth. The greater number of the whole are in a line along the west coast of South and North America. There are many in the islands of the Pacific and Indian Oceans, and in the centre of Asia. In Europe, there are only three in great activity—Ætna in Sicily, Vesuvius in Italy, and Hecla in Iceland. But a vast number of hills throughout France, Britain, and other countries, bear the appearance of having once been active volcanoes. As volcanic action often takes place in the sea, and as there are probably many on land not yet described by geo-

graphers, the number of such vents throughout the earth must be considerably more than 200.

Of the power of volcanoes to throw up large quantities of solid matter, we have many examples. During an eruption of Ætna, a space around the mountain, 150 miles in circumference, was covered with a layer of sand and ashes, generally about twelve feet thick. In the first century, the cities of Herculaneum and Pompeii were buried beneath such a layer of matter by Vesuvius. In 1660, the philosopher Kircher, after accurately examining Ætna, and the ground adjoining its base, calculated that the whole matter thrown out by it at its various active periods, would form a mass twenty times as large as the mountain itself, which is 10,870 feet high, and 30 miles in diameter at the base. From this mountain, in 1775, there issued a stream of lava a mile and a half in breadth, twelve miles long, and 200 feet thick. At an earlier period, there was a stream which covered eighty-four square miles. In 1538, a large hill, since named Monte Nuovo, was thrown up in the neighbourhood of Naples in one night; and in 1759, in a district of Mexico, previously covered by smiling plantations, a sudden outburst of volcanic action, which lasted several months, terminated in leaving six hills, varying from 300 to 1600 feet in height above the old plain.

Of the effect of submarine volcanoes, some interesting observations have been made in recent times. In June 1811, an island was thrown up by volcanic agency, near St Michael's, in the Azores. Columns of cinders rose 700 or 800 feet above the surface of the sea, with a noise resembling that of distant artillery. In the course of a few days, the island was a mile in circumference, and about 300 feet in height, having a crater in the centre, full of hot water. Some time afterwards, it disappeared. In July 1831, a similar island was thrown up, under precisely similar circumstances, in latitude 37° 11′ N., and longitude 12° 44′ E., off the coast of Sicily. It consisted of stones, mud, and cinders, and was of circular form, about a mile and a half in circumference, with a crater of hot water in the centre, 400 yards in diameter. This island, named Sciacca, or Graham's Island, existed so long above the sea as to allow of many persons landing upon it. The Bay of Santorin, in the Greek archipelago, which is about six miles long and four broad, contained, a few years ago, three volcanic isles, the first of which rose about the year 200, the second in 1650, and the third in 1709. In a part of the bay, where the water is generally several hundred feet deep, a shoal has for several years been gradually rising: about 1816, there were fifteen fathoms water upon it; in 1830, there were only three or four; the later accounts reduced it to two and a half. This rising mass was ascertained to be of solid rock, about half a mile in length, by one-third of a mile in breadth; the water deepening suddenly all round it. In 1825, a new island was observed to rise in the Pacific Ocean, about 300 miles north of New Zealand. It consisted of solid rock, had a pool in the middle, and sent forth smoke from several chinks.

Many islands which have long been inhabited by man, bear all the appearance of having risen, in like manner, from the bosom of the deep. The islands of St Helena and Ascension, the Azores, the West India islands, Iceland, and many of the islands in the Pacific, are evidently the produce of volcanic action. "Owhyhee," says M. de la Beche, "is a magnificent example of such an island: the whole mass, estimated as exposing a surface of 4000 square miles, is composed of lava, or other volcanic matter, which rises in the peaks of Mouna Roa and Mouna Kaa, to the height of between 15,000 and 16,000 feet above the level of the sea."

The causes of earthquakes have not as yet been satisfactorily explained, but they are now generally allowed to be connected with volcanic agency. They occur less frequently, and generally with less tremendous effect, in Europe, than in some other parts of the world, those parts where volcanic agency is most active, being also the parts where earthquakes are most frequent and most dreadful. Though their effect is sometimes to cause a sinking of the ground, they may, upon the whole, be considered as among elevating causes. It is conceived that they are produced by gases confined in the molten interior of the earth, similar to those which find vent by volcanoes. Such gases, prevented by local circumstances from escaping, may, it is thought, thus shake the solid ground over a large tract, and even cause it to rise to a certain extent above its former level. The most striking proof which has been adduced in support of this doctrine, is the effect of the earthquake which took place in Chili in 1822. This is part of the continent in which volcanoes are most numerous and active. On the occasion referred to, a shock was felt along the coast for more than 1000 miles. The land for 100 miles along the coast, and backwards to the line of the Andes, was raised above its former level. Along the shore, and for some distance along the bottom of the sea, the rise was three or four feet, so that rocks formerly submerged, and covered with shell-fish, were now exposed above the sea. Old beaches, similar to that now raised, were also observed in parallel lines along the land, the highest being about fifty feet above the ocean.

It has since been observed that old beaches, similar to those in Chili, exist in the neighbourhood of many seas. Along the Firth of Forth, in Scotland, there is one about forty feet above the present level of the sea, and which generally appears as a kind of bank a few hundred yards back from the present shore. In the firths of Clyde and Cromarty, similar beaches are traced. They may always be detected by their terrace-like level, and the presence of sea-shells, rounded pebbles, gravel and sand, such as usually compose beaches at the present day. In some places, old beaches have become conspicuous enough to become objects of popular wonder. In the vale of Glenroy, in Inverness-shire, as also in some neighbouring vales connected with Glenroy, there are three terraces along the sides of the hills, at various heights, which the ignorant people of the district firmly believe to have been roads formed by the hero Fingal for hunting, but which are now shown pretty clearly to have been the shores of quiet estuaries or arms of the sea, similar to many which still exist in the Scottish Highlands—three successive elevations, probably the effect of earthquakes, having elevated the land above the water, so as to leave as many terraces. Among the Alps, and in South America, there are vales marked in exactly the same way as Glenroy.

The existence of a force which *gradually elevates* the land in many places out of the water, was discovered by Mr Lyell. His chief observations were made upon the shores of the Gulf of Bothnia, which he ascertained to have risen several feet in the course of the last century, and a few inches even since 1820.

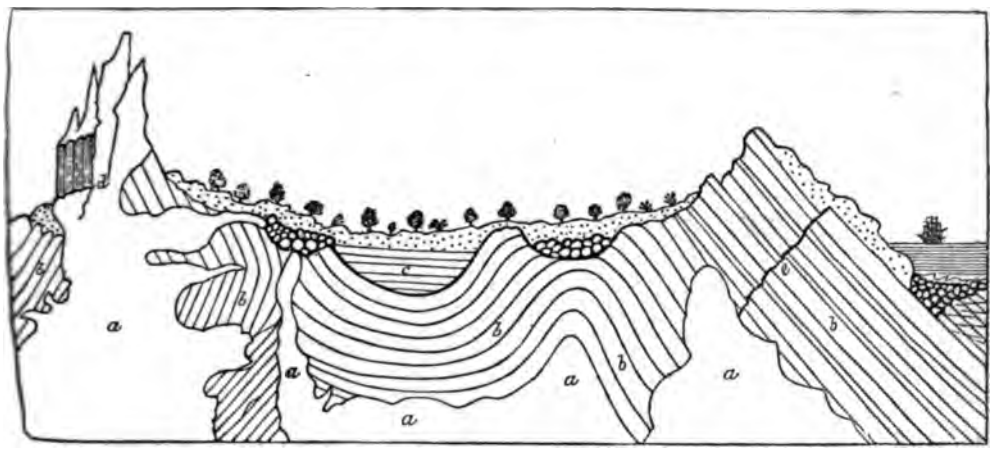
Besides the greater elevating causes arising from subterranean fires, there are some lesser ones of less mysterious origin. The sands deposited on beaches are sometimes blown by winds in upon the land, covering the vegetable soil throughout a large space, and in some instances forming hills of considerable height and magnitude. Some parts of the coast of Holland are thus fenced with ranges of sand-hills, the whole mass of which has been blown back from the sea. On some parts of the French coast, large tracts, once smiling with cultivation, are thus buried under a sterile layer of sand, which is continually advancing, notwithstanding every effort of man. On the coast of Moray, in the north of Scotland, a tract once forming the barony of Culbleen, has been transformed into a sandy tract since the fifteenth century. Such sand-beds readily become converted into strata of sandstone, if saturated with water containing a limy infusion.

In various parts of the world, land is raised out of the sea by the efforts of coral insects. The works of these creatures are seen upon a vast scale in the Pacific, where whole ranges of islands are formed by them. On the coast of New Holland, there is a coral reef which stretches out to a thousand miles in length. The insects do not commence their laborious operations at a great depth below water; from 60 to 100 feet is considered

the utmost extent to which the islands extend downwards. They are generally of a circular or oval shape; and Mr Lyell is of opinion that corals build upon the rims and in the craters of submarine volcanoes. The outer wall of the building emerges first above the waves, enclosing a pool of tranquil water. The seeds of vegetables are either brought there by sea-birds, or wafted by the ocean, and the islands soon become clothed with a mantle of green. The substance of which these islands and reefs are composed, is lime, which the insects secrete from the sea-water, and cement together with a glutinous matter contained in their bodies. Mr Lyell, while surveying the Isthmus of Panama, detached a quantity of these animals, and placed them on some rocks in a shallow pool of water. On returning to remove them a few days afterwards, he found they had secreted stony matter, and had firmly glued themselves to the bottom.

If we consider the operation of the elevating causes, we can be at no loss to understand how we should now see, as composing dry land, and sometimes in very lofty situations, strata which were once at the bottoms of seas; neither will it be surprising, if the irregular nature of volcanic forces is considered, that the strata, so elevated, rarely are found in their originally level position, but in all degrees of inclination, sometimes quite on edge; and even in certain rare instances folded backwards, so as to be upside down.

The changes produced by the united operations of aqueous and igneous agency are in part represented in the subjoined engraving of a supposed section of part of the earth's crust.



a Primary Rock, which has been thrown up, so as to disturb and mix itself with the Secondary Rocks.
b Secondary Rocks, thrown into inclinations and curves by the rising of the Primary Rock.
c Tertiary Formation, deposited in a hollow formed by the disturbance of the Secondary Rocks.
d Basaltic Columns. e A fault or hitch in the strata.
The circles are Boulders or detached stones, rounded by travelling in water, and deposited in hollows formed by water.
The dots indicate beds of gravel, immediately beneath the soil.

Section III.—DESCRIPTION OF ROCKS, AND ORGANIC REMAINS.

PRIMARY.

Granite.

Geologists have been accustomed to describe this as the lowest and oldest of all rocks. Certainly, no other rock is ever found beneath it, except in peculiar circumstances afterwards to be described: if the mass of the earth, therefore, were to be judged of from the small superficial crust with which we are acquainted, granite might appear to constitute the bulk of our planet—a vast nucleus on which all the stratified rocks rested. Geologists are now disposed, under a sense of their limited knowledge, to speak of granite, not as the lowest and oldest of all rocks, but as the lowest as yet discovered, and as one which, though in most of its forms old, is yet sometimes found of recent formation. Granite, in fact, often appears as a volcanic rock, which has been thrown up in a state of fusion through superincumbent strata of all kinds, penetrating into their chinks, and spreading over them on the surface. Even tertiary rocks are found permeated and covered by it—a proof that it has been formed since the deposition of those rocks, which is one of the most recent events in geological chronology. These are the peculiar circumstances in which it may be said that other rocks sometimes lie beneath granite.

Granite, then, may be described as generally forming a basis or bed for all the other rocks—as rising in some places from its unmeasured depths into chains of lofty hills—and as in other places penetrating in veins through superincumbent rocks, and partially covering them at the top. It composes some part of the mountain ranges of Cornwall, Cumberland, and the Scottish Highlands; and veins of it are found upon or near the surface in many other parts of England and Scotland.

Three substances usually enter into the composition of granite; namely, (1) *quartz*, a grey glassy substance, composed of the oxygen of the atmosphere in union with one of the newly discovered metallic bases (silicium); (2) *felspar*, also a crystalline substance, but usually opaque and coloured pink or yellow, composed of sandy and clayey matter, with a small mixture of lime and potash; (3.) *mica*, a silvery glittering substance, which divides readily into thin leaves or flakes, and consisting principally of flint and clay, with a little magnesia and oxide of iron. In some granites, instead of mica, we find *hornblende*, a dark crystalline substance, composed of alumina, silex or flint, and magnesia, with a considerable portion of the black oxide of iron. Such granites are called *Syenite*, from having been first found in the island of Syene. Other varieties are—*Serpentine*, in which there are dark spots like those on the skin of the snake (hence the name), and *Porphyry*, of which the distinguishing peculiarity is its containing little angular pieces of felspar enclosed in the mass.

In man's economy, granite is a rock of great importance. Its uncommon hardness makes it very suitable for the erection of buildings where great durability is desired. Hence, the docks of Liverpool, Waterloo Bridge in London, and many other buildings of a similar nature in England, have been composed of it, notwithstanding that it had to be brought from a great

distance. Nearly the whole city of Aberdeen is built of the granite found in the neighbourhood; and the houses have consequently a glittering appearance when the sun is shining upon them. This stone is also the component material of Memnon's head and Pompey's Pillar, two ancient structures in Egypt.

Inferior Stratified Series.

Above the granite, in its ordinary position, lies the inferior stratified series, consisting mainly of two kinds of rock, gneiss and mica-slate, with alternating strata of hornblende rock, quartz rock, eurite, talcose slates, chlorite slates, and argillaceous slates; of all of which it may be said that they follow no determinate order. These rocks are of the same materials as granite, in a very slightly modified form, and they are nearly as crystalline in their texture. Geologists also find in many places that the granite *passes* into them—a term expressing a blending of the characters of rocks at the line of their juncture. These two facts have led to the supposition, that the inferior stratified rocks were formed from the materials of the granite, disintegrated by mechanical or chemical means, and washed into the beds of vast oceans, where, on their deposition, they were reached by the high temperature of the interior, and thereby reconsolidated in a crystalline form. To account for the rocks composed exclusively of one of the materials of the granite, we may suppose a chemical separation of those materials.

The most prevalent rock of the series is *gneiss*, a compound, like granite, of quartz, felspar, mica, and hornblende, and so highly crystalline as to be sometimes scarcely distinguishable from granite. A great portion of the Highlands of Scotland is composed of strata of gneiss, of vast thickness. It is remarkable for its richness in veins of the metals. *Mica-slate*, or *schist*, the next most prevalent rock of the series, is composed of mica and quartz. It is the surface rock of many extensive tracts of country. *Quartz rock*, which we may suppose to have been formed by a chemical separation of that component of granite, is also a prevalent rock. Humboldt takes notice of a mass of it in South America, more than 9500 feet in thickness. The round white pebbles, or candy stones, so often found on sea-beaches, and in the beds of rivers, are pieces of quartz rock. *Eurite*, of which felspar is the main ingredient, and *hornblende rock*, the chief element of which is signified by its name, may also be accounted for by a chemical origin.

Clay-slate is the geological term for the well-known stone with which houses are roofed. It is, as its name imports, composed mainly of clay—a substance too liberally diffused amongst the ingredients of granite, to admit of any wonder as to its being found in a nearly distinct state in this rock. Mica-slate and clay-slate are *fissile* in their structure—that is, capable of being split into very thin plates: hence the utility of slate, as a material for covering houses. But a curious diversity exists in this respect between mica-slate and roofing slate. In the former, the *cleavage*, or direction in which it splits, is in the same line as the stratification; but in roofing slate, the cleavage is always more or less transverse. What makes the latter circumstance the more remarkable—when strata of roofing slate are found, as often happens, contorted or wavy, the direction of the cleavage is in one straight line through them all, indicating that the influence which produced the cleavage in that rock took effect after the whole had been laid down, and after, by some subsequent accident of pressure, they had been forced into a wavy direction. Probably this phenomenon is of an electric nature. Clay-slates are found in great abundance in Cornwall and in the Scottish Highlands. A fine kind makes the slates used at school, and from a kind still finer are cut the pens used for writing on school-slates.

In the inferior stratified series, there occur a few small beds of limestone, sometimes called *Saccharine Limestone*, from its resemblance to refined sugar, and sometimes *Primitive Limestone*, from the period of its occurrence in the series. In Greece and Italy this rock has been subservient to the developement of national talents, the highest that have ever been known of their class, for it is the marble from which the works of the Greek and Italian sculptors have been formed. In the geological history of our globe, its first appearance in the ascending series of rocks is an event of no small consequence, for limestone strata form a large proportion of the superior formations, and the manner in which they have been formed has engaged much attention. Limestone is the *carbonate of lime*, that is, a combination of the earth lime (itself an union of the metal calcium and oxygen) with carbonic acid (this being, again, an union of oxygen with the elementary substance carbon). Carbon is the largest element in the composition of vegetable and animal substances, and this its first appearance in the structure of rocks is of course a point of much interest, more especially as it is generally concluded that many of the superior limestone strata have been entirely formed of animal remains. We are thus tempted to surmise that the formation of the limestone beds of the inferior stratified series marks some early and obscure stage of organic existence on the surface of our planet. No distinct remains of plants or animals have, indeed, been found in this series; and it is customary to point to the next upper series, in which both do occur, as the era of organic life. Yet many geologists are of opinion that the inferior stratified rocks might have contained such remains, though the heat under which the rocks seem to have been formed may have obliterated all trace of such substances.

TRANSITION.

Grauwacke Group.

All the rocks hitherto described are of crystalline texture, and, apparently, chemical phenomena have attended their formation. In the group we have now arrived at, traces of mechanical origin and deposition become apparent; but still a few strata resembling the preceding occur throughout the lower parts of this series, as if the circumstances under which the earlier rocks were formed had not entirely ceased. Hence the term *transition* for the series, as implying a passing from one state of things to another.

The rocks forming the lower part of this group, and which are sometimes separately classed as the *Lowest Fossiliferous Group*, are an alternation of beds of chlorite, talcose, and other slates, resembling those of the inferior stratified series, with beds of clayey and sandy slate, of apparently mechanical origin, and in which a few fossils are found. It thus appears that the cessation of the chemical origin of rocks, and the commencement of organic life, are events nearly connected; and it has thence been surmised that the temperature of the earth's surface was now for the first time suitable to the production and maintenance of organic things. At the same time, the alternation of the rocks teaches us the instructive fact that the change was not direct or uniform, but that, for some time, the two conditions of the surface superseded each other. This is conformable with a general observation, which has been made by an eminent geologist,* namely, that, however sudden changes may have taken place in particular situations, a general change of circumstances attending rock formations is usually seen to have been more or less gradual. The few fossils found in this part of the series are, as far as ascertained, the same as those of the next higher rocks.

These are a series of arenaceous and slatey rocks, of evidently mechanical origin, intermixed with small beds of limestone, in which that peculiarity is less distinct, the whole being termed more particularly the *Grauwacke* group. The general composition of the grauwacke indicates its having been formed of a fine *detritus* (matter washed from other rocks), and its having been deposited slowly; but it sometimes has fragments of rock, of various sizes under that of a man's head, imbedded in it, and it occasionally *passes into* conglomerates. The limestones mixed with the grauwacke

* I. e. De la Beche—Manual, 471.

eds are larger and more numerous than in the preceding group, indicating an increase of the causes which roduced carbonic acid. Fossils are also more numerous in them than in some of the other beds.

The grauwacke forms the immediate surface in many arge districts in Scotland, England, France, Germany, nd North America, showing that, at the time of its ormation, "some general causes were in operation over large portion of the northern hemisphere, and that he result was the production of a thick and extensive leposit enveloping animals of similar organic structure ver a considerable surface."*

Fossils of the Grauwacke Group.

The fossils of the grauwacke (a few of which extend o the clayey and sandy slates immediately below) are f both plants and animals. Amongst the plants are lgæ, or sea-weeds, showing that seas like the present ow existed. Some land plants are also found, but of he simpler structures; as *filices*, or ferns; *equisetaceæ*, class of plants of the character of the mare's tail† of ur common marshes; and *lycopodiaceæ*, a class of the haracter of our club mosses.‡ All of these land plants re *monocotyledons*, that is, produced from seeds of a ingle lobe, and therefore *endogenous*, that is, growing rom within—timber plants being, on the contrary, the produce of two-lobed seeds, and growing by exterior layers. The *flora* of this era thus appears of a very simple kind, indicating the existence only of marshy and damp grounds.

The animals are also, in general, of a humble and simple kind. There is abundance of those creatures (*Polypi*) resembling plants, which fix themselves on the bottom of the sea by stalks, and send forth branch-like arms for the purpose of catching prey, which they convey into an internal sac, and digest. At present these creatures abound in the bottoms of tropical seas, where they live by devouring minute impurities which have escaped other marine tribes, and thus perform a service analogous to that of earth-worms and other land tribes, the business of which is to clear off all decaying animal and vegetable matter. But the class of creatures found in greatest numbers in the grauwacke series of rocks are *shell-fish*, possibly because the remains of these creatures are peculiarly well calculated for preservation. All over the earth, wherever grauwacke rocks are found, shell-fish are found imbedded in vast quantities, proving that shell-fish were universal at the time when that class of rocks were formed. In a work entitled "Remarks on the Geology and Mineralogy of Nova Scotia," by Abraham Gesner,§ it is stated that they abound to a surprising degree in the valuable iron ores which in that province accompany or form part of the grauwacke rocks. In reference to the beds at Nictau, the author says, "The impressions made by marine organic remains in the ore and slate are extremely beautiful and distinct. Millions of shell-fish, of the molluscous and crustaceous tribes, which once enjoyed a perfect animal existence, have been swallowed up by this ore, where their remains and perfect likenesses are yet to be seen in the same natural and symmetrical beauty they possessed when alive."‖ At new Canaan, another of the places where these rocks are dug, the *lily encrinite*, a remarkable example of the radiated tribes, is found. It is so called from its resemblance to a lily resting on its stalk; "it is supposed," says Mr Gesner, "that the animal resided in the bottom of the flower; and those portions of it which were moveable, stood stretched out like arms to seize its prey. In the grauwacke at New Canaan, this animal appears like the lily with its capsule and petals closed. It is often of large dimensions; some were procured during our last visit to their stony graves, as large as water-melons, although in general they are much compressed, and have been flattened by the weight of the rock resting above them when in a soft state. This species of radiated animals is now altogether extinct, and many ages have passed since a living species could be produced. It has never been discovered in any of the strata placed above the new red sandstone; and as it does not appear but in a few of the older strata, the whole race must have enjoyed but a short existence."

Among the shell-fish of the early seas, a few of the most remarkable kinds are described by geologists as *ammonites* and *nautili*. These fishes have been found in great varieties of size; but one peculiarity pervades them all, that the greater part of the shell is a curve containing air-cells, while the animal itself resided in the outer portion, as if a human being were to have a house consisting of a long row of chambers, and live only in the front room. The ammonite receives its name from its resemblance to the curved horn on the head of the statue of Jupiter Ammon. It has been an animal of wonderful character and habits. Some of them have been of a minuteness scarcely visible, and others four feet wide. They are found over the whole surface of the earth. The economy of this animal destined it to live in general at the bottoms of deep seas, but to be able to rise occasionally to the surface. While it lived in the outer part of its wreathed shell, the interior curls were hollow, containing air, so as to make it of nearly the same weight with the element in which it lived. As the pressure of the water at the bottom of a deep sea would break in the plates of any ordinary shell, as it does a bottle when one is lowered to a considerable depth, the shell of the ammonite has been strengthened by a curious kind of internal arch-work, so as to be able to resist the weight of the incumbent fluid. This arch-work so completely meets all human ideas of ingenious contrivance for the purpose which it was destined to serve, as to form one of the most striking examples of that adaptation of means to ends which is universal in the works of nature, and which is so well fitted to impress the conviction of a great designing First Cause. The weight of the ammonite was so nicely adjusted to an equality with the water, that its filling with air or water a small central pipe which runs through the whole extent of the curve, was sufficient to make it rise as high or sink as low as might suit its inclination.

The *Trilobites* are another of the early species which deserve particular notice. Their remains, like those of the ammonites, are universal over the earth. It is curious that, while they have long ceased to live, other genera or kinds of the same class of creatures (*Crustacea*) still exist, and serve to afford some knowledge of their habits. The trilobite had a head and eyes, below which there was a body of no great length, covered with shelly plates in the manner of a lobster's tail, and terminating in a narrow rounded point. It is supposed that it had soft paddles to make way through the water, which have not of course been preserved. But the most interesting feature in the trilobite was its eyes, of which several specimens have been obtained in a nearly entire state. The eye of the trilobite has been formed with 400 spherical lenses in separate compartments on the surface of a cornea projecting conically upwards, so that the animal, in its usual place at the bottoms of waters, could see every thing around. As there are two eyes, one of the sides of each would have been useless, as it could only look across to meet the vision of the other; but on the inner sides there are no lenses, that nothing may, in accordance with a principle observable throughout nature, be thrown away. It is found that in the serolis, a surviving kindred genus, the eyes

* De la Beche.

† The mare's tail is an elegant plant, having a succulent erect jointed stem, with attenuated foliage growing in whorls round the joints, the latter being protected by a distinct striated sheath; the parts of fructification constitute a scaly catkin at the apex of the stem.—*Mantell.*

‡ Herbaceous prostrate plants found in damp woods and bogs, having their leaves simple and imbricated, that is, lying over each other.

§ Halifax, Nova Scotia. Gossip and Coade, 1836.

‖ "They are almost all bivalves," he adds, "of the genus *unonia*, although some were obtained resembling the *nautilus discus* and *planorbis equalis*." He elsewhere mentions that the encrinite and trilobite, which in Germany are said not to have been found in rocks earlier than the mountain limestone, are found in the iron ore and clay-slate of Nova Scotia.

are constructed on exactly the same principle, except that they are not so high, which seems a proper difference, as the back of the scrolis is lower, and presents less obstruction to the creature's vision. It is also found that in all the trilobites of the later rocks, the eyes are the same.

This little organ of a trivial little animal carries to living man the certain knowledge, that, millions of years before his race existed, the air he breathes, and the light by which he sees, were the same as at this hour, and that the sea must have been in general as pure as it is now. If the water had been constantly turbid or chaotic, a creature destined to live at the bottom of the sea would have had no use for such delicate visual organs. "With regard to the atmosphere," says Dr Buckland, "we infer that, had it differed materially from its actual condition, it might have so far affected the rays of light, that a corresponding difference from the eyes of existing crustaceans would have been found in the organs on which the impressions of such rays were then received. Regarding Light itself, also, we learn, from the resemblance of these most ancient organisations to existing eyes, that the mutual relations of Light to the Eye, and of the Eye to Light, were the same at the time when crustaceans endowed with the faculty of vision were placed at the bottom of the primeval seas, as at the present moment."

A few bones of fishes have been found in the grauwacke; but some obscurity rests on the point. If such really have been the case, the remains of this era may be said to include specimens of all the four divisions of the animal kingdom—radiated, jointed, pulpy, and vertebrated animals, or radiata, articulata, mollusca, and vertebrata.

SECONDARY.

Carboniferous Group.

This is a very comprehensive group, embracing not only the coal strata, and the beds of sandstone, limestone, and others alternating with these, but two great formations on which the proper coal group may be said to rest (though in a state of intimate connection), named the Mountain Limestone, and the Old Red Sandstone.

The *Old Red Sandstone* is a rock composed of grains of sand, cemented by the oxide of iron (the same substance as common iron rust), which gives it its red colour. Its strata are sometimes thin, and sometimes of the thickness of several thousand feet.

Mountain Limestone is an abundant rock. It forms the surface of a vast portion of the central counties of Ireland. Quick-lime, for the improvement of soil, and the preparation of the mortar used in building, is made from mountain limestone. It is also used in many countries as a building stone. Great caverns often occur in this rock, being probably owing to some chemical phenomenon in its formation. One of these at Mitchelston, in Ireland, comprehends passages several miles in extent. Mountain limestone is frequently traversed by beautiful veins of calcareous spar, at times appearing to be principally composed of organic remains, while at others not a trace of these can be detected. This rock is of various colours, but mostly grey, varying in intensity of shade. In some situations it affords good marble, which is susceptible of a considerable degree of polish. From its durable nature, it is likewise used in building. That stupendous work, the Breakwater at Plymouth, is composed of it. Many valuable veins of lead ore occur in this rock.

The superior group more particularly called *Carboniferous*, and variously termed the *Coal Measures*, is composed of beds of that mineral, often very numerous, alternating with beds of sandstone, shale, limestone, ironstone, and some other substances. As many as forty beds of coal exist in the neighbourhood of the town of Newcastle. The great utility of this mineral as a domestic fuel, and in the arts, gives it a high im-

portance, and happy is the country in which it exists in considerable quantity. In a merely geological point of view, it is equally important. This rock is a mass of vegetable matter, which has accumulated in certain situations, and afterwards covered over and pressed into a hard consistence other strata.

Two suppositions have been formed respectin circumstances under which coal was formed. Acc to one, the vegetable matter must have grown dense forest for many years; then the land must sunk, and become the basin of a lake or estua which situation rivers would wash into it mu sand, which would cover over the vegetable mass form superincumbent beds of shale and sanc respectively. Then, the ground would be once elevated, or sufficiently shoaled up, to become a scene of luxuriant vegetation. When the veg had again become accumulated, the land would be sunk, and become once more the basin of a la which case the beds of mud and sand might ag formed by rivers. And this alternating process i posed to have taken place as often as there are b coal to be accounted for. The other theory is, tha some great estuary or lake, rivers coming from rent quarters would bring the various matters fo the strata of the carboniferous group, a river fro direction bringing the mud which would form another from another direction the vegetable m which would form coal, and so on, each deposit pe taking place through the efficacy of some local ci stances, while the causes for the other deposits temporarily suspended. At present great diffic beset both theories.

Fossils of the Carboniferous Group.

In this group of rocks, about 300 species of have been discovered, all of them now extinct. two-thirds of them are ferns; the others cons large *coniferæ* (allied to the pine), of gigantic *l diaceæ*, of species allied to the *cacteæ* and *euphorb* and of palms. Most of these plants probably exist coal beds, forming in fact their sole composition the peculiar nature of this mineral renders it di to detect them by examination.* Thin slices, how have been examined by the microscope, and the table structure has then been detected, where no ext trace of it was visible. In cannel coal, a kind pecu hard, the vegetable structure is observed throu the whole mass, while the fine coal retains it o small patches, which appear as it were mechan entangled. Slate and cannel coal often bear d impressions of plants. The plants are such as in hot moist situations; and it is therefore pres that a climate of that nature existed at an early p where coal is now found, even in Melville's I which is within the polar circle. Dr Hutton th that the vegetables must have been carbonise charred) by heat; but Dr Macculloch contend good grounds, that the change has been effected by water and pressure, and that by these agents is capable of being converted into coal.

Large fragments of trees are often found in the and sandstone beds of the carboniferous group, frequently in the former than in the latter. As with fossil substances, they are converted into material in which they are imbedded, but preserv their original lineaments, except that they are gene changed from their original round to a flattened the result of the pressure they have sustained. most instances, these fragments of trees appear to been transported from a distance, and laid down zontally in their present situation; but some have found with their roots still planted in their native of mud, and the stems shooting upwards through se superior beds of various substances. Even in coal beds, there are found stems of trees in their nal vertical position; the roots being imbedded in beneath. In these instances, we must suppose the to be on the spot where the living tree was pla grew, and died. In the Bensham coal seam, in Jarrow coal-field, a few years ago, there was foun upright tree of the kind called lepidodendra, thir

* Maclaren's Geology of Fife and the Lothians.

and a half feet wide at the base, and thirty-nine feet high, the branches at the top being also entire: the lepidodendron, a common plant in this group, is so called from the scaly appearance of its stem, the scales being the roots of the leaf stalks. Various fossil trees have been discovered in the sandstone beds of the carboniferous group, at Craigleith and Granton, in the county of Edinburgh. One found in Craigleith quarry was twenty feet long, three feet in diameter, with scars where the branches had been torn off, and was ascertained, by microscopic inspection of slices of the trunk, to have been a conifera of the genus *Araucaria*, of which living species exist in New Holland.

The animal remains of the carboniferous group are much the same as those of the grauwacke—zoophytes, mollusca, crustacea, and a few fishes.

New Red Sandstone Group.

This group of strata, lying above the carboniferous group, comprehends rocks called—

The *Red Conglomerate*, formed of pieces of earlier rocks, some rough, some smoothed by rolling, all caked together;

Zechstein, a kind of limestone, abounding in Germany;

Red or Variegated Sandstones, a group of many varieties of colour, and principally of argillaceous and siliceous consistence, much used for building in England and other countries;

Muschelkalk, a limestone varying in texture, but most frequently grey and compact; not found in Britain or France, but occurring in Germany and Poland;

Variegated Marls—beds of rock of different colours, red, blue, and grey, composed of the remains of shell-fish.

To this group also belong beds of *rock salt*, of which many exist in England, particularly in the county of Chester. Rock salt is a crystalline mass, forming regular strata, sometimes of the thickness of many feet. The substance is rarely pure, but generally contains some portion of oxide of iron, which gives it a red colour. It is dug like coal and other minerals, and when melted and subjected to proper purification, is sold for domestic purposes.

Fossils of the New Red Sandstone Group.

The vegetable remains of this group are much the same as those of the preceding; but in the department of animal life, when we arrive at the Muschelkalk, or Shell Limestone, we find a great difference, leading to a supposition that, at this era of geological chronology, "circumstances had arisen changing the character of marine life over certain portions of Europe; that certain animals abounding previously, and for a great length of time, disappeared never to reappear, at least as far as we can judge from our knowledge of organic remains;"* and that certain new forms of a very remarkable kind were added.

The new creatures were of such a class as we might expect to be the first added to the few specimens of fish which had hitherto existed: they were of the class of Reptiles, creatures whose organisation places them next in the scale of creation to fish, but yet below the higher class of animals which bring forth their young alive and nourish them by suck (mammalia). The earth was as yet only fit to be a partial habitation to creatures breathing its atmosphere and living upon its productions. It is supposed to have been under so high a temperature as to be unsuitable for mammalia: the lands which existed were probably low and marshy, with a hot, moist atmosphere, so as to present an appropriate field of existence only for lizards, crocodiles, and creatures of similar character. It is also to be supposed that the land was at this period undergoing frequent changes and convulsions, so that only a class of creatures to which submersions and deluges were matters of indifference, could reside upon it without a greater waste of life than was part of the Great General Design. The Reptiles, which first begin to appear in the Muschelkalk, continued to flourish while a great succession of other rocks was forming: throughout the whole of the Secondary Formation, there were few other land animals. In fact, the world must have been in the possession of reptiles for a many thousand times longer period than it appears to have yet been in the possession of man. "When we see," says Dr Buckland, "that so large and important a range has been assigned to reptiles among the former population of our planet, we cannot but regard with feelings of new and unusual interest, the comparatively diminutive existing orders of that most ancient family of quadrupeds, with the very name of which we usually associate a sentiment of disgust. We shall view them with less contempt, when we learn, from the records of geological history, that there was a time when reptiles not only constituted the chief tenants and most powerful possessors of the earth, but extended their dominion also over the waters of the seas; and that the annals of their history may be traced back through thousands of years antecedent to that latest point in the progressive stages of animal creation, when the first parents of the human race were called into existence."*

The Reptiles of this early age were peculiar both in size and in structure. Some, which inhabited the seas, resembled lizards, but were of gigantic size; others, designed for land as well as sea, resembled the crocodiles which still exist in warm climates.

One of the most remarkable kinds (genera) has received the name of *Ichthyosaurus* (Fish Lizard), of which seven species or varieties have been discovered. The head is like that of the crocodile, composed of two long slender jaws, provided with a great number of teeth (in some cases 180), and eyes of great size (in one instance, the cavity for the eye has been found to measure fourteen inches), while the nostril, instead of being near the snout, as in the crocodile, was near the anterior angle of the eye. The body was fish-like, arranged upon a long spinal column, which consisted of more than a hundred joints, and to which a series of slender ribs was attached, and terminating in a long and broad tail, which must have possessed great strength. The whole length of some specimens of the Ichthyosaurus was about thirty feet. Instead of the feet, with which the lizard and crocodile are furnished, the Ichthyosaurus had four paddles like those of the whale tribes, fitting it to move through the waters in the manner of those animals. It had also a construction of the sternum or breast-arch, and of the fore paddles, similar to that found in the Ornithorynchus, an aquatic quadruped of New Holland, and evidently designed, as in the case of that animal, to enable it to descend to the bottoms of waters in search of food. While the Ichthyosaurus, then, is mainly allied to the lizard tribes, it combined in itself the additional characters of the fish, the whale, and the Ornithorynchus. "As the form of the vertebræ by which it is associated with the class of fishes seems to have been introduced for the purpose of giving rapid motion in the water to a lizard inhabiting the element of fishes, so the further adoption of a structure in the legs, resembling the paddles of a whale, was superadded, in order to convert these extremities into powerful fins. The still further addition of a furcula and clavicles, like those of the Ornithorynchus, offers a third and not less striking example of selection of contrivances, to enable animals of one class to live in the element of another class."† Such deviations cannot be considered as monstrosities; they are perfect adaptations of a creature to its purposes in the theatre of being. Only the spine of the Ichthyosaurus as yet existed in other animals. Its head, its paddles, and its breast-arch, were all detached parts of future animals. How strange to reflect, that some of these contrivances were allowed to become extinct, and, as it were, lost to nature, and ultimately, after a long interval, were revived in connection with new creatures!

The internal structure and the modes of living of the

* De la Beche's Manual, 408.

* Bridgewater Treatise, i. 167.

† The same, i. 185.

Ichthyosaurus, have been in a most unexpected manner made clear by the discovery of the half-digested remains of animals found within them or in their neighbourhood. It appears that the creature possessed a large stomach, extending throughout nearly its whole body, and that it lived upon fish and other reptiles, including its own kind. It must have occasionally devoured creatures several feet in length. Masses of the refuse of the Ichthyosaurus, petrified as hard as the finest marble, and well known to geologists under the name of *coprolites*, are found to be marked spirally, like the refuse of certain species of sharks and dog-fish, the intestinal gut of which winds greatly, in order that it may take up the least possible room. We thus obtain a distinct idea of the nature of a very important part of the bodily economy of this long extinct race of animals. The stomach occupied so large a space in their bodies, for the reception of large quantities of food, and it was at the same time so necessary that the speed of the animal in pursuit of prey should not be clogged by a very large or long body, that the smaller intestines had been, by a wise arrangement of nature, reduced nearly to the state of a flattened tube, coiled like a cork-screw around itself; "their bulk being thus diminished," says Buckland, "while the amount of absorbing surface remained nearly the same as if they had been circular."

The name *Plesiosaurus* is applied to another highly remarkable reptile of gigantic size, which inhabited the world before the days of mammalia. A particular species has been described as having a body and paddles which bore some resemblance to those of the Ichthyosaurus, the former being more bulky, and the latter longer and more powerful. At the end of a long neck, like the body of a serpent, was a head resembling that of a lizard, but also partaking of the characters of the head of the crocodile and Ichthyosaurus. The tail was short. The backbone of this creature, and the neck and tail continuing it, contained in all about ninety vertebral pieces, thirty-three of which composed the neck; and the vertebræ are found to be of a less fish-like structure than those of the Ichthyosaurus, and not nearly so well calculated for rapid motion. The ribs describe a large circle, and, being formed in four parts, seem to have been designed to contain a capacious set of lungs, and to rise and fall as the lungs were inflated or emptied: in this respect they resemble the ribs of the chamelion, whose changes of colour are now known to be occasioned by the varied depth of its inspirations. It is therefore surmised, though with little confidence, that the Plesiosaurus was also capable of changing its colour —a power which must have been highly necessary to a creature of its unwieldy character, both to enable it to elude the quicker and equally voracious Ichthyosauri, and that it might more readily ensnare and seize the creatures designed to be its prey. The Plesiosaurus probably lived chiefly on or near the surface of the water, breathing the air, and dabbling for prey like a duck or swan, but might also be able to descend to the bottom, and even to move, though awkwardly, upon land. One part of its organisation is peculiarly striking, as foreshadowing a structure of a more important kind. The paddles, which may be considered an advance or improvement upon the fins of fishes, are at the same time the type of the legs of quadrupeds and of the arms and limbs of man. The fore-paddle consists of scapula (shoulder blade), humerus (shoulder), ulna (upper bone), and radius (lower bone), succeeded by the bones of the carpus and metacarpus, and the phalanges, equivalent to those which compose the palm and fingers of a human being. The hind-paddle presents femur, tibia, and fibula, succeeded by the bones of the tarsus and metatarsus, and five toes. Thus "even our own bodies, and some of their most important organs, are brought into close and direct comparison with those of reptiles, which at first sight appear the most monstrous productions of creation; and in the very hands and fingers with which we write their history, we recognise the type of the paddles of the Ichthyosaurus and Plesiosaurus."*

* Buckland's Treatise, i. 213.

Of the Crocodile family found in abundance in this class of rocks, the *Iguanodon*, of which remains have been found in the fresh-water formation at Wealden in England, may be cited as a specimen. It was a huge animal, resembling the present Iguana of South America, which chiefly lives upon plants and seeds. The smallest part of the thigh-bone of an Iguanodon was found to be twenty-two inches in circumference, and much larger than that of any existing elephant. Species resembling the present Gavial of the Ganges have also been found. It may fairly be inferred from the present habits of the Gavial and other kinds of Crocodiles, that at the time when the extinct species flourished, the world must have contained many low shores and savannahs, fitted for the residence of such creatures. Some parts of England are thus proved to have had at one time shores of lakes and estuaries resembling those of the Ganges, the Nile, and other waters in hot countries, and consequently a much higher temperature than at present.

But perhaps the greatest wonder of the Reptile Age, was the creature called the *Pterodactyle*. Mainly a reptile of the lizard kind, its body possessed some of the characteristics of the mammalia; it had the wings of a bat, the neck of a bird, and a head furnished with long jaws full of teeth, so that in this last part of its organisation it bore some resemblance to the crocodile. Eight species of the Pterodactyle which have been found, vary from the size of a snipe to that of a cormorant. The eyes were of enormous size, apparently enabling it to fly by night. From the wings projected fingers terminated by long hooks, like the curved claw on the thumb of the bat. These must have formed a powerful paw, wherewith the animal was enabled to creep or climb, or suspend itself from trees. It has been conjectured that the Pterodactyle would chiefly live on flying insects, of which, it is important to notice, several varieties existed at the same time, their remains being found in the same rocks. And it is likely, from the size of the eyes, that it searched for prey by night as well as by day. But it has also been argued, from the great length and strength of the jaws, and the length of the neck, that the Pterodactyle did not live solely upon flies, but likewise sought for fish in the manner of our own present sea-birds.

Tortoises also existed during this age, as is proved by the marks of their feet on sheets of sandstone, and by their remains. But as yet no animals of a higher class had appeared upon earth—for the remains of certain creatures of the Opossum family, found in the oolite at Stonesfield, near Oxford, stand as yet so solitarily, that we cannot consider them as proving that mammalia were added to reptiles. With, then, flocks of Pterodactyles flying in the air in pursuit of huge dragon-flies; gigantic crocodiles and tortoises crawling amidst the jungles of low, moist, and warm shores, and such monsters as the Ichthyosaurus and Plesiosaurus swarming on the surface of the sea, while its depths were peopled by infinite varieties of fish, shelled and vertebrated; we can form some faint idea of what sort of world it was while the strata between the coal and the chalk were in the course of being deposited.

Oolitic Group.

Next in order is a group which derives its name from a kind of limestone conspicuous in it, called oolite. Oolite, again, is named from its resembling the eggs or roe of fish. The oolite group comprehends, besides oolite itself, various alternating clays, sandstones, marls, and limestones.

Oolite is a carbonate of lime, intermixed with other ingredients. The oolites found at Bath, Portland, and Purbeck, are much esteemed in building. In the *oolite* which occurs over a considerable part of western Europe, there is a general uniformity of structure. In other parts of the world it differs very considerably, especially in its mineralogical character; and when this is the case, in order to determine whether certain rocks belong to the group or not, recourse has been had to the organic remains contained in them. In some parts

of Europe these are very abundant, and in other places the reverse. To account for this difference, it has been supposed that in those parts of western Europe where they are abundant, shallow seas existed; while in those places, such as Italy and Greece, where few remains are found in the formation, the waters were deep.

With respect to the deposition of the oolitic group, nothing very satisfactory can be said. Whence came the immense quantity of carbonate of lime, is a question not easily answered. To account for it by springs, similar in size and saline contents to those we now see, appears to be unphilosophical. Many limestones are nearly altogether composed of organic remains; and this has led to a theory, that these animals extracted lime from the water, leaving their shells, produced through millions of generations, to be gradually converted into limestone. Notwithstanding all that we can suppose was deposited from springs and organic bodies, "there remains," says de la Beche, "a mass of limestone to be accounted for, distributed generally over a very large surface, which requires a very general production, or rather deposit, of carbonate of lime contemporaneously, or nearly so, over a great area."

In the oolitic group is comprehended by some geologists an important subordinate group, named the *lias*, which may be generally described as an argillaceous and calcareous deposit, sometimes the clayey material predominating, and sometimes the limey.

Fossils of the Oolitic Group.

In this group are found, as in some of the preceding, *algæ* (sea-weeds), *equisetaceæ* (mares' tails), *filices* (ferns), and *coniferæ* (allied to the pine). The animal remains are nearly the same as in the preceding group, but of a greater variety of species.

Cretaceous or Chalk Group.

This group, the uppermost of the secondary series of rocks, is so named from the beds of chalk of which it is mainly formed. Chalk is a carbonate of lime. It is very plentiful in England; and at Dover and other places, it runs along the coast in cliffs and mountains of considerable size. Nodules or small masses of flint, sometimes containing remains of shells and animals, are abundant in chalk, and it is extremely difficult to account for their presence there. In the lower parts of the English chalk deposits, the flints disappear, becoming gradually more rare in the passage downwards. From this circumstance, the group has been sometimes divided into *upper*, or *chalk with flints*, and *lower*, or *chalk without flints*. But this characteristic does not universally prevail. Beneath the chalk there is a rock called *greensand*, which in Normandy is used as a building stone. An argillaceous deposit called *gault* also occurs; it is of a bluish-grey colour, and is frequently composed of clay in the upper, and marls in the lower part.

The cretaceous group, taken as a mass, may in England, and over a considerable portion of France and Germany, be considered as cretaceous in its upper part, and sandy and clayey in its lower part. The group is extensively distributed over Europe; and M. de la Beche makes the following observations upon its mineralogical character in general:—"Throughout the British islands, a large part of France, many parts of Germany, in Poland, Sweden, and in various parts of Russia, there would appear to have been certain causes in operation, at a given period, which produced nearly, or very nearly, the same effects. The variation in the lower portion of the deposit seems merely to consist in the absence or presence of a greater or less abundance of clays or sands, substances which we may consider as produced by the destruction of previously existing land, and as deposited from waters which held such detritus in mechanical suspension. The unequal deposit of the two kinds of matter in different situations would be in accordance with such a supposition. But when we turn to the higher part of the group, into which the lower portion graduates, the theory of mere transport appears opposed to the phenomena observed, which seem rather to have been produced by deposition, from a chemical solution of carbonate of lime and silex, covering a considerable area." M. de la Beche goes on to state, that no springs, or set of springs, could have produced the great deposits of chalk which cover immense surfaces. "But," says he, "although springs, in our acceptation of the term, could scarcely have caused the effects required, we may perhaps look to a greater exertion of the power which now produces thermal waters for a possible explanation of the observed phenomena." Mr Lyell states, that chalk must have originated in the sea, in the form of sediment, from tranquil water; and that, before the existence of the rocks above, it must have been raised in large portions above the water, and exposed to the destroying power of the elements.

Fossils of the Cretaceous Group.

In this group, *confervæ* and *naides* were added to the vegetables; to the animal remains some fishes are added, but the number of the saurian reptiles is diminished.

A species of rocks, called the *Wealden rocks*, occur beneath the lower green sand of the English series, and are characterised by the presence of terrestrial and fresh-water remains in abundance.

TERTIARY.

The cretaceous group was at one time thought to be the uppermost; but it was in time discovered that, in several places, and particularly under the sites of the cities of London and Paris, there existed a still higher group or series, to which the name supra-cretaceous was therefore at first given, afterwards changed to the Tertiary Formation or Tertiary Series.

The tertiary rocks appear as if they had been formed in great hollows or basins in the former surface: hence it is customary to speak of the *London Basin*, the *Paris Basin*, &c. The Paris Basin has been well explored, and is supposed to present a good example of the Tertiary Formation. It consists of five subordinate groups or series, whereof the first, third, and fifth, appear, from the organic remains found in them, to have been formed in fresh water, and the second and fourth in sea water. They have been thus arranged in an ascending order:—

1. Fresh-water formation,	Plastic clay. Lignite. First sandstone.
2. Marine formation,	Calcaire grossier.
3. Second fresh-water formation,	Siliceous limestone. Gypsum, with bones of animals. Fresh-water marls.
4. Second marine formation,	Gypseous marine marls. Upper marine sands and sandstone. Upper marine marls and limestone.
5. Third fresh-water formation,	Millstone without shells. Shelly millstone. Upper fresh-water marls.

Plastic Clay.—This substance has been so named from its easily receiving and preserving the forms given to it, and, from possessing this property, it is used in the potteries. It rests upon a surface of chalk, which is very irregular, and furrowed out so as to present an alternation of hills and valleys. This clay is of various colours; and above it, and separated by a layer of sand, there frequently occurs another bed of clay, which scarcely can be called plastic. It is black, sandy, and sometimes contains organic remains. In this deposit, considered as a mass, it is stated that organic remains do not occur in the lower parts. In the central portion, fresh-water animals commonly occur, and in the upper part there is a mixture, sometimes an alternation, of marine and fresh-water remains.

Calcaire Grossier, as its name implies, is composed of a coarse limestone, which is employed for architectural purposes. It is frequently separated from the plastic clay beneath by a bed of sand, and it alternates with argillaceous or clayey beds. The animal and vegetable remains enclosed in it are numerous, and generally the same in corresponding beds, presenting considerable differences when the beds are not identical.

Siliceous Limestone is sometimes white and soft, sometimes grey and compact, and penetrated by silex. It is often full of cells, which are occasionally large, and communicate with each other in all directions.

Gypsum and Marls.—Gypsum is a crystalline substance composed of lime, in union with sulphuric acid and water. Its colours are grey, white, and yellow; but different varieties of it have different hues. It was used in ancient times for window glass. The gypseous rocks consist of an alternation of gypsum and limey and clayey marls; these marls are also found in thick beds above this alternation. These beds are considered as having been deposited in fresh water, and above them are others, which, from their organic remains, are believed to have been deposited in the sea.

Upper Marine Sands and Sandstones.—These consist of irregular beds of siliceous sandstone and sand. The animal remains in the lower portion of these beds are broken and very rare. In some situations, however, millions of small bodies have been found. These beds are occasionally covered with a species of rock which is filled with marine shells.

Upper Fresh-Water Formation.—This rock sometimes consists of white calcareous marls, at others of different siliceous compounds; from one of these, millstones of a celebrated kind are formed. They are sometimes charged with shells and petrified wood.

The supracretacious rocks of England are commonly known by the names of plastic clay, London clay, Bagshot sands, the fresh-water formations of the Isle of Wight, and the crag of Norfolk.

Plastic Clay.—This deposit, though it occasionally contains an abundance of clay, employed for various useful purposes, is also mixed with beds of pebble, irregularly alternating with sands and clay. It thus differs from that of Paris, but it agrees with it so far as it reposes upon an uneven surface of chalk. The organic remains are principally marine, but those of fresh-water and terrestrial animals are intermingled with them.

London Clay.—The great argillaceous deposit which underlies the London district, has obtained this name. It is of a bluish or blackish colour, and contains a portion of calcareous matter; beds of sandstone are also said to be occasionally present in it. This clay varies considerably in thickness, sometimes from seventy-seven to seven hundred feet. Besides the remains of a great variety of shell-fish, those of a crocodile and turtle have been found; masses of wood have also occurred in this stratum.

Bagshot Sands.—These rest upon the London clay, and consist of layers of various kinds of sands and marls containing fossil shells.

The Isle of Wight and London formations, although differing considerably in the nature of their deposits from those of Paris, present such an analogy in the organic remains of some parts of the group, that we are justified in referring the deposit to the same epoch, local circumstances and accidents having determined their characters.

It may be observed, that volcanic agency has been very active during the formation of this group. Ætna, it would appear, has for a long series of ages given forth its igneous products, and a considerable portion of these rest upon supracretaceous rocks. In central France, where extinct volcanoes are numerous, this is still more evident: a volcanic mass, called the Plomb du Cantal, appears to have burst through and fractured the fresh-water limestones of the Cantal, which, according to Mr Lyell, are equivalent to the fresh-water deposits of Paris, and some of those in England.

Fossils of the Tertiary Series.

As yet, no distinct traces of the higher forms of organisation have appeared. No vestiges of the mammiferous or sucking animals, either terrestrial or aquatic, which form so large a portion of the existing animal kingdom—no marks of the bird class, now so extensive and important—and scarcely any token of such marine and fresh-water shells and other productions as abound

present time—have been discovered either in
er or later secondary strata of the globe. The
I indeed almost unique, cases of supposed
to this statement, have all been found capable

of such explanations as leave the general truth unshaken.

In the Tertiary Formation we find a striking wonderful change of appearances. These strat rich beyond all that go before them in animal ren At the time of their formation, the aptitude o earth for the maintenance of organic life had increased, and was continually increasing, as the approached when man himself and the higher o of being were to become its inhabitants. The wa paved, it will be seen, for this consummation, b same regular and progressive steps which charact the organic changes of the geological eras alread scribed.

From their relative position, and from the or remains contained in them, geologists have bee abled to distinguish, in the tertiary series of strata great eras of formation. One of the most strikin novel features of these formations consists, as al mentioned, in the repeated alternations of *fresh-* deposits with marine ones; a circumstance establ beyond question by the character of the fossil and bones found respectively in these deposits the oldest of the tertiary eras, the term Eocene plied: the second is called the Miocene period third, the Older Pliocene; and the fourth and lates Newer Pliocene; names founded on the resp proportions which their fossil shells bear to she existing species. In each of these periods is inclu great fresh-water, as well as a marine, formati deposit. Of the living beings which flourished in of these periods, we shall endeavour to give som count, commencing with the most ancient, the Eo

After the chalky formation, a period of conside repose seems to have ensued, during which a portion of the existing continents, and in especi hollows and basins on their surface, appear to been the site of vast lakes, rivers, and estuaries. these was deposited the first great fresh-water f tion of the Eocene period. While this deposi going on, the globe, no longer an entire stagnant m but as yet incapable of affording much support t restrial animals, was tenanted only by such quadr as live beside rivers and lakes. Nearly fifty e species of mammalia, chiefly of this character, discovered by Cuvier in the first Eocene fresh-wate mation. The most of these belonged to the class P dermata (*thick-skinned* animals), of which the ele the rhinoceros, the hog, the tapir, and the horse remarkable existing examples. This class of Pach matous animals, it may be observed, only includes thick-skinned creatures as have no more prom mark to distinguish them than their *skins*. The and river-horse, for example, are thick-skinned then they are *amphibious*, and that is a more prom distinction. The extinct animals to which we now resemble the tapir more than any of the other P dermata. Among these extinct creatures, the worthy of notice are the Palæotherium, the Anopl rium, the Lophiodon, Anthracotherium, Cherapot and one or two other families, including, some of not less than eleven or twelve distinct species. mammiferous families had some general traits of r blance, and the description of the great *Palæoth* may afford an idea of the main features of all. animal was of the size of the horse, or about fou and a half in height to the wither. It was more and clumsy in its proportions than the horse; the was more massive, and the extremities thicke shorter. On each foot were three large toes, rou and unprovided with claws; the upper jaw was longer than the under. The tapir, and partly, als hog, if large enough, would closely resemble the Palæotherium. "The Palæotheria (says Buck probably lived and died upon the margins of the existing lakes and rivers, and their dead carcases have been drifted to the bottom in seasons of fl The other mammiferous families of the first E formation, were all, like the Palæotheria, herbivo and had, it is probable, similar habits.

The number of animals, aquatic and terrestrial, whose remains are found in the other deposits of the Eocene period, is immense. In some gypsum (sulphate of lime) quarries of that era, scarcely a block can be opened which does not disclose some fragment of a fossil skeleton. The following list of the animals found in the gypsum quarries of Paris, will show sufficiently how very different from the gigantic reptiles of the secondary eras were the creatures that tenanted, and found fitting sustenance on, the earth during the Eocene period. Besides various extinct Pachydermatous families, there were found extinct species of the wolf and fox, of the racoon and genette, among the Carnivorous tribes; of the opossum; of the dormouse and squirrel; nine or ten species of birds, of the buzzard, owl, quail, woodcock, sea-lark, curlew, and pelican families; fresh-water tortoises, crocodiles, and other creatures of the Reptile class; and several species of Fishes:—all of these animals, be it remembered, being *extinct species* of existing families, exclusive of the Pachydermatous animals, and the Fishes, which were extinct species of *extinct families*. The occurrence of the birds mentioned in the preceding list of the Eocene animals, forms (says Dr Buckland) "a remarkable phenomenon in the history of organic remains." The number of fossil shells found in the Eocene formations is estimated by Mr Lyell at 1238. As in the case of the terrestrial creatures, few of these shell-fish are of recent or existing species, not more, at the utmost, than 3½ in every hundred. We do not, moreover, recognise in the strata now under consideration, those prodigious accumulations of *microscopic* shells, as they are called from their extreme minuteness, that distinguish the formations of the secondary or preceding ages. One small piece of rock, of the ages in question, has been found to contain above ten thousand chambered shells, though the whole weighed only an ounce and a half. In fact, great beds of secondary limestone seem to be almost wholly composed of microscopic shells. Such phenomena are not presented in the Eocene or subsequent tertiary formations. The shells of these periods, as has been already observed, approximate more to the character of recent or existing species.

In the Eocene period, then—the earliest of the Tertiary eras—we perceive, for the first time, the existence in the animal kingdom of a similar order to that which now prevails, indicating that the earth and its atmosphere were in a certain degree assimilated to their present condition. It seems impossible, however, to agree with Mr Lyell in the subjoined remark on the Eocene era:—"When we reflect (says that writer) on the tranquil state of the earth, implied by some of the lake-formed and sea-formed deposits of this age, and consider the fulness of all the different classes of the animal kingdom, as deduced from the study of the fossil remains, we are naturally led to conclude that the earth was at that period in a perfectly settled state, and already fitted for the habitation of man." Several strong arguments might be adduced against this conclusion, but we shall only refer to one objection—the temperature. From the frequency of the remains of crocodiles and other tropical reptiles in the Eocene formations, and from the frequency of palm-leaves and trunks, as well as from other evidences, the atmosphere may be regarded as having been still at too high a temperature for human comfort. Volcanic action, moreover, appears to have been of very common occurrence.

The second, or Miocene period, however, of the Tertiary ages, brings us a step nearer to the existing condition of things. A strong proof of this is derived from the shells alone of the strata of this period. Whereas only three in the hundred Eocene fossils were of recent species, of the Miocene shells we find eighteen in the hundred to have existing representatives. Along with the mammalia, also, of the Eocene period, we find that the Miocene deposits present us with the earliest forms of animals existing at the present time. In Dr Buckland's Bridgewater Treatise, a table is given, exhibiting the animals found at Darmstadt, in a bed of sand referable to the Miocene period. In this list are mentioned two skeletons of the Dinotherium, a large herbivorous animal, called by Cuvier the Gigantic Tapir; two large Tapirs; Calicotherium—two large Tapir-like animals of this name; two Rhinoceroses; Hippotherium, an animal allied to the horse; three Hogs; four large Cats, some as large as a lion; the creature called the Glutton; Agnotherium, allied to the dog; and Machairodus, an animal allied to the bear. From this list the reader will perceive the gradual approach in the Miocene animals to existing species. The largest of the terrestrial mammalia yet discovered belongs to the period now under notice; it is the Dinotherium, or Gigantic Tapir, already mentioned. No complete skeleton has yet been discovered; but from the bones found, Cuvier and others imagine the animal to have reached the extraordinary length of eighteen feet. The most remarkable peculiarities of its structure consist in two enormous tusks at the end of its lower jaw, and the shoulder-blade, which resembles that of a mole, and is calculated to have given the power of digging, or other free movement, to the fore-foot. It seems probable that this stupendous creature lived in fresh-water lakes, and had the half terrestrial half aquatic habits of the walrus or river-horse. The tusks might be used in digging up roots and plants, and also in sustaining the head on banks during sleep, or in pulling the body out of the water, as the walrus uses a similar pair of tusks. "In these characters (says Buckland) of this gigantic, herbivorous, aquatic quadruped, we recognise adaptations to the lacustrine (lake-covered) condition of the earth, during that portion of the tertiary periods, to which the existence of these seemingly anomalous creatures seems to have been limited."

In the Miocene period, the seas became the habitation of numbers of marine mammalia, consisting of Dolphins, Whales, Seals, Walrus, and the Lamantin, or Manati. Few of these animals were of the same species as those which exist at present, but the differences were far from being great or remarkable. This circumstance, as well as the considerable number of fossil shells identical with existing ones, exhibits an approach in the character and tenantry of the Miocene seas to the present state of things in these respects. The discovery, also, of true terrestrial mammalia, as the Rhinoceros and Hog, in the Miocene formations, shows, that since the era of the gigantic reptiles, no slight portion of the earth's surface had assumed the condition of dry land, fit for the support of the common herbivorous creatures. At the same time, the occurrence of such animals as the Dinotherium in the Miocene strata, proves, as Dr Buckland remarks, that many regions were still covered with great lakes and estuaries.

It now remains to inquire into the nature and peculiarities of the animals characterising the Pliocene age, which, for convenience, has been arranged into two periods, the Older and Newer Pliocene, the latter of which immediately preceded the formation of the Diluvial layer constituting the present superficial matter of the globe.

Proceeding from the deepest seated portions of the terrestrial crust upwards, we find a progressive approach, as has already been stated, in the character of the animal remains to the existing varieties of animal life. A remarkable proof of this is presented by the shells of the Pliocene periods. Whereas only eighteen in the hundred of the Miocene shells were of recent species, in the Older Pliocene from thirty-five to fifty, and in the Newer Pliocene not less than from ninety to ninety-five in the hundred, are identical with shells of existing species. This great change is accompanied by the disappearance of the Palæotherian family and others, which formed the most striking animal remains of the periods immediately preceding. In place of these extinct species of *extinct* Pachydermatous or thick-skinned families, we observe in the strata of the Pliocene periods a vast number of remains of *existing* Pachydermatous families, such as the elephant, the rhinoceros, and the hippopotamus, though these remains belong to varieties that are now extinct. The first traces also now appear of Ruminant animals—of oxen, deer, camels,

and other creatures of the same class. But though it is of importance to notice the existence of such remains in the Pliocene ages, in order to exhibit the progressive approach to the present state of things in the animal kingdom, it is in the huge and extraordinary creatures, now no longer to be seen on the face of the earth, that the interest of such an investigation as the present chiefly lies. The Pliocene ages are not less rich in those wonders than the periods already described, and to this portion of the subject we shall now turn our attention.

The enormous creature called the *Great Mastodon*, belongs to the Pliocene era. Of all the fossil animals whose skeletons have been found *complete*, or nearly so, the Mastodon is the largest. Much confusion has existed relative to this animal's true character, many naturalists regarding it as an extinct species of the elephant, and others holding that it approached nearer to the hippopotamus. Cuvier, however, determined it to be the head of a distinct family, comprehending several other species. It is about one hundred and twenty years since remains of the Mastodon were first discovered in America, and vast quantities of them have been since found in the same region, buried chiefly in marshy grounds. One skeleton nearly complete was dug up on the banks of the Hudson in 1801, and it is from this that a correct knowledge of the animal has been principally derived. In height, the Mastodon seems to have been about twelve feet, a stature which the Indian elephant occasionally attains. But the body of the Mastodon was greatly elongated in comparison with the elephant's, and its limbs were thicker. The whole arrangement of the bony structure resembled that of the elephant, excepting in one point, which Cuvier regarded as of sufficient consequence to constitute the Mastodon a different genus. This was the cheek-teeth, which are divided, on their upper surface, into a number of rounded, obtuse prominences, arranged not like the elephant's, but like those of the wild boar and hippopotamus; whence it is concluded, that, like the latter animals, the Mastodon must have lived on tender vegetables, roots, and aquatic plants, and could not have been carnivorous. The lower jaw of the skeleton found on the Hudson is two feet ten inches in length, and weighs *sixty-three pounds*. Like the elephant, the Mastodon had two tusks, curving upwards, and formed of ivory, and, in the opinion of Cuvier, it had also a trunk of the same kind with the former animal's.

Altogether, making an allowance for several additional feet of length, the larger specimens of the elephant must be considered as varying little from the Great Mastodon. Though not an aquatic animal, the Mastodon, as has been mentioned, appears to have lived, like the hippopotamus, on aquatic vegetables, and this is corroborated by the marshy situations in which its remains are generally found in the greatest profusion. The Indians of Canada had observed these bones, and believed them to belong to a peculiar animal which they called the *father of oxen*. There have been found many bones, belonging, it is conceived from the teeth and other peculiarities, to smaller varieties of the Mastodon. No complete skeletons, however, having been yet dug up, it is unnecessary to attempt any detailed description of what these minor Mastodons must have been. From the immense number of Mastodon bones which have been dug up in various parts of the earth, and particularly in the New World, we must conclude that at no distant period of time the terrestrial surface was extensively peopled by these enormous creatures. How strange would the spectacle have been, could a human being have been set down in the midst of the great marshes of the ancient world, and beheld these animals browsing in hundreds, all like moving mountains of living matter!

Another creature, belonging to the later Pliocene ages, if not indeed to the era of the Diluvial formation, *has been* discovered in America, both north and south. *This is the Megatherium, an animal* more widely removed *in character from any* existing creature, than *any of the other fossil remains* that have been yet observed. The Megatherium was discovered to the end of the last century. A skeleton, almost e was found nearly at one hundred feet of depth, in vations made on the banks of the river Luxan, s leagues to the south-west of Buenos Ayres. Th gatherium was a tardigrade (slow-moving) anima the sloth, and was at least the size of a comm Its limbs were terminated by five thick toes, att to a series of huge, flat, metatarsal bones, or those with which the toes are continuous, as in the h foot. "Some of the toes (says Buckland, in his of this creature) are terminated by large and po claws of great length; the bones supporting these are composed partly of an axis, or pointed core, filled the internal cavity of the horny claw; and of a bony sheath, that formed a strong case to r and support its base." These claws, from their po were admirably calculated for the purpose of di The legs of this creature were of enormous thic its thigh bone being nearly three times the thickn the same bone in the elephant. The other bones Megatherium were almost proportionably heav still more remarkable feature, however, in the an structure, was the coat of armour, of solid bone, v from three-fourths of an inch to an inch and a h thickness, which covered its hide, in the same m as the armadillo's is encased by the same substan

The habits and peculiarities of this stupendous for so the Megatherium may be termed, are w scribed and explained in Dr Buckland's Bridge Treatise. After stating that with the head and sho of a sloth, it combined, in its legs and feet, an admi of the characters of the ant-eater and the arm and resembled them still more in being cased in of armour, he continues, "Its haunches were mor five feet wide, and its body twelve feet long and feet high; its feet were a *yard in length*, and termi by most gigantic claws; its tail was probably c armour, and much larger than the tail of any beast among living or extinct terrestrial mam Thus heavily constructed, and ponderously acco it could neither run, nor leap, nor climb, nor b under the ground, and in all its movements must been necessarily slow; but what need of rapid lo tion to an animal, whose occupation of digging ro food was almost stationary! and what need of spe flight from foes, to a creature whose giant carcas encased in an impenetrable cuirass, and who by a pat of his paw, or lash of his tail, could in an i have demolished the cougar or the crocodile! S within the panoply of his bony armour, where w enemy that would dare encounter this behemoth Pampas (the South American region where it exi or in what more powerful creature can we fin cause that has effected the extirpation of his race

His entire frame was an apparatus of co mechanism, adapted exactly to the work it had t strong and ponderous, in proportion as this wor heavy, and calculated to be the vehicle of life an joyment to a gigantic race of quadrupeds; w though they have ceased to be counted amon living inhabitants of our planet, have, in their bones, left behind them imperishable monuments consummate skill with which they were construc

Another extinct tardigrade creature, presenting of the characters of the Megatherium, was disco in a calcareous cavern in Virginia, and received President Jefferson, who first described some bones, the name of the *Megalonyx*. Jefferson conc the claw to be that of an extinct feline animal of size (that is to say, an animal of the same deser as the tiger, lion, cat, and lynx, all of which are l of prey); but the French naturalist declare possessor of the claw to have been herbivorou calculated to live on herbs; and this was triumph proved by the discovery of others of its bones. Megalonyx appears (for a complete skeleton ha yet been found) to have been a little smaller th than the Megatherium. But the Megalonyx, acco to Cuvier, was herbivorous after the manner o

sloth, since its teeth were conformed precisely like that animal's. From the resemblance of their feet, also, he concludes that their gait was similar, and all their movements alike. The difference in volume of body, however, must have prevented the habits of the Megalonyx from being perfectly analogous to those of the sloth. The Megalonyx could but seldom have climbed up trees, because it must rarely have found any sufficiently strong to support its weight. But its height would enable it to browse, like the sloth, among the leaves of trees, without its being under the necessity of climbing any but such tall and strong ones as could bear its weight. It is even possible that the weight of the creature may have been serviceable in bending down, and perhaps in breaking, the elevated branches which contained its food.

The next fossil animal to which we shall refer, is that long called the *Mammoth*, under the impression that it was a distinct genus, but which is now universally denominated the *Fossil Elephant*, as being an extinct species of that existing family. The Mammoth (which name we shall retain for the sake of distinction) is rather to be regarded as a creature of the Diluvial than of the Pliocene period (that is to say, belonging to the age, when, by means of floods, the present beds of gravel and hard clay so often found between the rocks and vegetable soil were laid down upon the earth), as some specimens have been discovered in Siberia, with portions of the flesh and hair actually preserved along with the bones among the ice. It was at first thought, when numbers of Mammoth bones were discovered in Italy, and other southern countries of Europe, that they were the remains of elephants brought by the Romans and others from Asia and Africa; but the incalculable quantities of them ultimately detected in Russia and other districts, where elephants were never brought in the shape of oriental tribute as they were to Rome, showed that their presence was to be attributed to natural causes, and not to the casual agency of man. In truth, the beds of the Volga, Don, and other northern rivers, are filled with them, and this can be accounted for only on the hypothesis, either of an alteration in the habits of the elephant, or of a great change of climate in these parts, or of some immense moving force on the face of the earth, which has carried them thither. The instance in which part of the flesh was found along with the bones, will supply us with a general description of the Mammoth. When the animal, on this occasion, was first seen through the mass of ice in which it lay, the soft parts were nearly entire. After the natives had fed their dogs for a long time with the mountainous hulk of flesh, Mr Adams of St Petersburgh heard of it, and set out to see it. When he reached the spot, the skeleton was entire, with the exception of a fore leg. The spine of the back, a shoulder-blade, the pelvis, and the rest of the extremities, were still united by ligaments and a portion of the skin. The other shoulder-blade was found at some distance. The head was covered with a dry skin. One of the ears, in high preservation, was furnished with a tuft of hair, and the pupil of the eye was still discernible. The brain was found in the skull, but in a dry state. The neck was furnished with *a long mane*, and the skin, generally, was covered with black hairs and a reddish sort of wool. Of the quantity of hair and bristles that had been on the body, some idea may be formed from the fact that thirty pounds of them were gathered from the ground, where the dogs, in eating the flesh, had dropt them. The tusks were more than nine feet long, and the head, without the tusks, weighed more than four hundred pounds. Altogether, the skeleton of this Mammoth was about the size of a large elephant's.

Skeletons similar to this have been found in abundance in the islands of the Arctic sea. They differ in several minute points of structure from the common elephant, and on this circumstance the most rational explanation of their being found in such cold climates is founded. This explanation is, that the Mammoth Elephant was of a species fitted to be a native of cold countries; and of this reasoning, the different structure, and the long thick hair, are held to be proofs. Whether this may be the case or not, it seems certain that the Mammoth's existence must have been very recent, and must have approached closely to, if not encroached on, the era of man.

SUPERFICIAL.

Diluvium, Alluvium, Peat, and Vegetable Soil.

In many parts of the earth's surface, a thick bed of compact clay, containing stones of various sizes, and sometimes of a red, sometimes of a blue colour, is found above the hard rocks: it is called *Diluvium*, as supposed to have been deposited by a deluge which had swept over the earth after the most of the present rocks had been formed, and placed in their present arrangement. Some of the stones contained in the diluvium are rounded as by the act of rolling; others contain seams or grooves, which are supposed to have been occasioned either by their rubbing on some hard substance in passing, or having been rubbed against by smaller stones passing them. All over the earth large blocks of stone are found on or near the surface, which it is certain have been carried from great distances, as rocks of the same kind in their original position are not to be found near. There are blocks of this kind in Cumberland, which appear to have originally belonged to hills in the south of Scotland; and some have been found in the district between the Trent and Thames, which geologists suppose to have been brought thither from Norway.

The *Alluvium* is the matter carried down by rivers, and deposited in large level spaces beside their banks, or in islands at their mouths.

Peat is an accumulation of decayed vegetable matter mixed with water. It is well known for its properties as fuel.

The *Vegetable Soil* is generally composed of the inferior substances in a pulverised state, or of detritus carried from a distance, mingled with decayed vegetable and animal matters.

Remains in the Diluvium, &c.

The period when the diluvium was deposited, being that immediately preceding the existing order of things on the earth's surface, is marked by the remains of animals, many of which still exist, while others are extinct. The chief evidence on this point is derived from bones, and fragments of bones, found in caves which are supposed to have served about the time of the diluvial action, as retreats for Hyænas and other beasts of prey. That of Kirkdale, in Yorkshire, discovered a few years ago, was found to contain remains of twenty-three species; namely, Hyæna, Tiger, Bear, Wolf, Fox, Weasel, Elephant, Rhinoceros, Hippopotamus, Horse, Ox, three species of Deer, Hare, Rabbit, Water-rat, Mouse, Pigeon, Raven, Lark, a species of Duck and Partridge. The bones, in all these cases, were broken into angular fragments or chips, and were all more or less decayed, though the gelatinous matter yet remained in some of them. They were covered by a layer of mud about a foot deep, the nature of which led to the supposition that it must have been deposited during the action of the diluvium.

Till a recent period, no trace of any animal of a higher order was discovered in rocks. Some remains of a human skeleton had been found in a cave in Guadaloupe, imbedded in stony matter; but it was concluded, in that case, that the enclosing matter was of recent formation, and that the human being whose relics were discovered in it, might have been alive at no distant era. Latterly, however, fossil zoology has made one step in advance. In 1838, a fossil jaw-bone of one of the *quadrumana* (four-handed or monkey tribes) was discovered in the tertiary formation at the northern foot of the Pyrenees, in the department of Gers, in France. Two deposits there are very rich in fossils, affording remains of no fewer than thirty mammiferous animals. In the second and newer of these, which is lacustrine, or a deposit from a fresh-water lake, the jaw-bone of the monkey was found, containing four incisor teeth, two canine, four false grinders, and

six true grinders in a continued series. The monkey is supposed to have been about three feet in height. The bone occurred in a stratum of marl, covered by compact limestone. Another jaw-bone of a monkey was discovered with other remains, in August 1839, in a brick-field at Kingston, near Woodbridge, in the county of Suffolk: the particular bed in which it was found has not been stated. The bone indicates a species of the quadrumana not now existing.

These must be considered as very interesting discoveries. The earliest animals and plants are of the simplest kind. Gradually, as we advance through the higher strata, or, in other words, as we proceed through this record of progressive creation, we find animals and plants of higher and higher structure, till at last we come to the superficial strata, where there are remains of kinds approximating to the highest of all the animated tribes, namely, man himself. But, before the above discoveries, there remained one remarkable gap in the series. The quadrumana, or monkeys, who form an order above common mammalia, but below the bimana, or human tribes, were wanting. Now this deficiency is supplied; and it is shown that every one of the present forms of animated existence, *excepting the human*, existed at the time when the superficial strata were formed. The only zoological event of an important nature subsequent to that period is the creation of man; for we may consider of a lesser importance the extinction of many of the specific varieties which flourished in the geological ages, and the creation of new.

VOLCANIC.

Rock of this kind owes its origin to internal fire, which seems to have sent it up in a state of fusion. It is spread over large parts of the surface of the earth, particularly in France, where there are many extinct volcanoes. The apertures through which it has forced its way from below, and the chinks and rents formed at the time of its eruption in adjacent rocks, are often found filled with it. Large mountains are also composed of volcanic rock. It is remarkable for the fine soil formed out of it.

The chief varieties of volcanic rock are—

Trap, a term from the Swedish, expressive of the appearance of stairs which a hill of this rock often presents—a bare precipice alternating with a grassy platform or terrace. In trap rocks, nodules are often found; that is, little isolated masses of a different consistence from the including matter: the rock is then said to be of *amygdaloidal structure*, from a Greek word signifying raisins. This peculiarity is owing to the porousness of the original matter: it contained many small air-cells, which, being afterwards filled up with silex, carbonate of lime, zeolite, and other ingredients, became nodules of those substances.* In plutonic rocks, no such peculiarity is ever found.

Basalt, a dark grey rock, of crystallised form, masses of which resemble groups of pillars, the various pillars generally having regular sides and angles, and the whole joined compactly together. The Giants' Causeway, in Ireland, and the Island of Staffa, in the Hebrides, are notable examples of basalt. The structure of basalt is found to have originated in the manner in which refrigeration, or cooling, took place at its formation. The process has been imitated on a small scale by the fusing of a few hundred-weights of basalt, and allowing the mass to cool in the furnace: as the cooling gradually proceeded, globules appeared; these enlarged till they pressed laterally [sideways] against each other, and became converted into polygonal [many-cornered] prisms. Thus the rock was replaced in something like its original form, in a common furnace.

Greenstone, a compact, hard, tenacious rock, of dark greyish colour, slightly tinged with green.

Lava (a term from the Gothic, signifying *to run*), the *product of modern volcanic mountains.*

* *Lyell's Geology, iv. 174.*

SECTION IV.—MINERAL VEINS.

Throughout the primary, transition, secondary, and tertiary rocks, but particularly the two first kinds, there occur what are called *veins*, containing diverse substances, most commonly metals, quartz, and calcareous spar, the last being a hard and shining substance deposited from lime. The form and direction of veins may be best understood from the way in which they mostly seem to have originated, namely, by chinks or cracks formed in all directions throughout the rocks, and which have subsequently been filled with various substances.

Those filled with metals penetrate downwards so far that their lower ends are rarely found, and miners have an idea that they reach quite through the earth. Near the surface of the earth, they are generally found poorest in the metal they contain, richer at a certain distance down, and then poor again. They also often change their metal at different depths. In France there are veins which contain iron above, then silver, and next copper. One of the Cornwall mines has zinc above, and copper in great quantity below. These veins also change their width at different depths: thus, the Dalcoath mine in Cornwall varies from forty feet to six inches in width.* What at first appears extremely strange, a vein will sometimes be rich, or contain abundance of the metal, at the place where it passes through one kind of rock, and poor where it passes through another. Thus, for instance, a copper vein will be productive as long as it is dug through slate, and become poor when it passes into granite. Such a vein, it may also be remarked, is generally found richest in the slate when it approaches the granite.

Till a recent time, two theories as to the formation of metallic veins were predominant—one representing them as the result of a forcing of fused matter from below into the chinks, the other accounting for them by supposing an infiltration of the matter in water from above. These theories, respectively termed Huttonian and Wernerian, are now given up: "many veins are fissures of mechanical origin, into which metalliferous matter has been sublimed from the effects of high temperature; but others have resulted from an electro-chemical 'separation or segregation of certain mineral and metallic particles from the mass of enveloping rock, while it was in a soft or fluid state, and their determination to particular centres.'"† Within the last few years, much light has been thrown on the subject by electro-chemical experiments, whereby the workings of nature, in this department of her economy, were imitated on a small scale. Becquerell and Mitcherlich, foreign mineralogists, have succeeded in forming crystals by electricity. Our own countryman, Mr Andrew Crosse of Somersetshire, has in like manner formed calcareous spar out of water which had percolated through a limestone rock, and which was forming crystals naturally at the place where the experimentalist obtained it. The same gentleman produced quartz crystals, and thus made the formation of what are called precious stones no longer a mystery. The electric apparatus used by Mr Crosse was of small power, but kept long in operation, such being the way in which nature works the same ends.

In Mr Crosse's experiments, the same solution produced different substances at different ends of the electric pole. For example, a battery operating for six months on fluat of silver, produced at the negative pole six-sided cubes of silver, and at the positive crystals of silica and chalcedony. This opens up a most interesting field of speculation. The difference of substances found in certain veins, their comparative richness and poorness, may have been the consequence of different electric states in the rocks in which they were deposited.

* Comstock's Geology, New York, 1838.

† Mantell's Wonders of Geology, 651.

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GEOGRAPHY.

INTRODUCTORY.

The Earth which we inhabit, as has been explained in the article Astronomy, is a nearly round globe or mass of matter, forming one of eleven primary planets, which at various distances revolve round the sun as a centre, and receive from that splendid luminary the blessings of light and heat. The earth is one of the smaller sized of the planets, being only about a fourth of the diameter of Uranus, and an eleventh of the diameter of Jupiter, and forms, therefore, a comparatively small portion of the planetary system, and, with reference to the stars, only a speck in the vast extent of creation.

According to the calculations of astronomers, the earth is 7902 miles in mean diameter, and measures about 25,000 miles in circumference. But the diameter or thickness is greater at the middle, or equinoctial line, than in the contrary direction. The cause of this has been explained in Astronomy, but may here be briefly adverted to. The diurnal motion of the earth on its axis, or imaginary poles, causes a greater whirl at the middle than the extremities of the mass, and the earth, originally in a soft state, has been there bulged out all round. The extent of this bulging is twenty-six miles on the whole thickness, or thirteen miles from the surface to the centre of the earth. Thus, *the form of the globe is that of an oblate, or flattened sphere, and its diameter is twenty-six miles greater from one side to another, at the equinoctial line, than betwixt the poles.* Such is the nice adjustment of the daily motion of the earth on its axis, that if it were only a little greater, the sea would rise and fly off, and if the velocity were still more increased, the whole mass of earth and water would be dispersed in fragments, or, in other words, be destroyed. The earth, as far as can be ascertained, is a solid body, well balanced in all its parts, and consists of two kinds of matter, land and water—the land being composed of rocks, metallic ores, soils, and a variety of other substances (see Geology); while the water, as is well known, is of two qualities, fresh and salt—the former in lakes and rivers, and the latter in the sea or ocean. The greater part of the earth consists of solid land or rocky matter, but a large proportion of it is covered by the waters of the ocean; and therefore, to appearance, the ocean forms the principal portion of the globe. It is so, however, only in appearance, notwithstanding its imposing extent, the water being merely a superficial covering to the land.

The manner in which the land is mixed with the ocean is quite irregular, and the relative situation and dimensions of each are constantly shifting. From causes which have been explained in the article Geology, the sea is daily making encroachments on the land, while the land at other places is in the course of being left dry by the sea. Thus, in point of fact, the external features of the globe are ever changing; and it may

be safely averred, that in the course of ages there has been a thorough alteration over the whole surface of the globe—that not one part now resembles that form which it originally possessed.

In order to facilitate the operations of the navigator and traveller, and with the view to mark the relative situation of every spot on the earth's surface, the globe has been subjected to divers measurements, by means of ideal lines drawn from north to south, and east to west, as represented in the figure which forms the frontispiece. In the first place, the whole surface is represented as spread out in the form of two hemispheres—the Eastern Hemisphere containing the continents of Europe, Asia, and Africa, and the Western Hemisphere North and South America. The line which appears to cut across the hemispheres at the middle is the *equator* or equinoctial line, and from this are measurements in degrees of latitude.

The earth's surface has been calculated to contain 198,943,750 square miles, of which scarcely a third part is dry land; the remaining two-thirds are water. The land is composed principally of two large masses or tracts, one of which comprehends the continents of Europe, Asia, and Africa; the other comprehends the continent of America. Australia, which lies in the ocean in a southerly direction from Asia, is so extensive as to be entitled to the name and character of a fifth division. All the detached and smaller masses of land, called islands, when taken together, are computed to contain as much land as the continent of Europe. In reference to maps of the earth, Europe, Asia, Africa, and Australia, with their islands, are distinguished as lying in the eastern hemisphere; while America, with the West Indian and other islands, are comprehended in the western hemisphere. The seas which encompass these extensive tracts of land have locally various names; but the two principal expanses of water are the Atlantic and Pacific Oceans—the former separating Europe, Asia, and Africa, from America, on the west, and the latter lying betwixt the western shores of America and the eastern shores of Asia. The extensive oceans surrounding the north and south poles are called the Polar Seas, which have not been explored sufficiently for us to be able to say whether any large tracts of land lie in these remote quarters of the globe. Great diversity of opinion prevails with respect to the depth of the ocean. By numerous investigations, it does not appear that the depth is any where much more than two or three miles, generally it is a great deal less; and it might be argued, that notwithstanding the large surface of the ocean, the body of its waters can only be considered as lying like lakes in the hollows of the land; for the earth, as already noticed, is eight thousand miles in diameter, and to that huge mass of dense matter the sea bears no proportion in its depth. While the surface of the land exhibits a variety of mountain ranges, hills, vales, and plains, so also is the bottom of the sea varied in its configuration, abounding in sandbanks, hills, rocks, and reefs dangerous to the mariner; and the islands which rear their heads above the surface are only the tops of the highest hills and mountains in the sea.

The waters of the ocean, as every one knows, are salt to a greater or lesser degree—a quality which is considered necessary to preserve them from putridity. How they should possess this saline property, no one has yet been able to explain satisfactorily. Some have imagined that the saltness is caused by rocks of salt at the bottom of the sea, but this is obviously incorrect, for rocks of salt do not abound to such an extent as would be required for performing this important office. It is more probable that the saltness is an inherent property in the water itself; there is at any rate nothing more strange in this than in the circumstance of the atmosphere being in its nature composed of divers kinds of air or gases.

' an examination of this point, however, and for a
ir account of the ocean and its tides, we refer to
icle THE OCEAN.

ording to the beautiful harmony of design mani-
in all departments of creation, the earth, with its ocean, its atmosphere, its rivers, and its var climates, forms an appropriate field for animal vegetable existence. The manner in which ani and plants are thus distributed in situations and cumstances exactly suited to their character, is a ter of deeply interesting observation. Nature- which, as a phrase of convenience, we denote the Creating and Disposing Power—has appointed very forms of animal or vegetable life to be localised in portion of the globe approaching to its entire terres surface. Most of them are calculated for certain grees of heat and cold, dryness and moisture; and cordingly, are to be found distributed in rings or z around the globe, or at certain elevations, with a d reference, in all cases, to the temperature and c conditions of the situation.

It appears, from the researches of geologists, the distribution of animal and vegetable forms ha the course of ages, undergone variations conform to alterations of condition in soil, climate, and c circumstances. Races of animals have thus ent disappeared from the surface of the earth, while in tracts of land, which have risen from the bosom o deep, have become clothed with vegetation, and are the appropriate theatre of existence of various kin animals. The dispersing power of winds and curr not to speak of the active interference of man, is posed to be capable of accounting for the distrib of many plants; but it is clear, that without the vigilant superintendence of an all-wise Providence earth, taken in its whole extent, could not exhibit remarkable forms of animal and vegetable life are so nicely suited to the localities in which the placed. In Europe, and nearly all other temp regions, we find the horse, the cow, the dog, the the crow, the sparrow, the house-fly, and other tures with which we are familiar, because the n of these animals is suited to climates of mod heat and cold. In the warm and dry regions of and Africa, other forms of animal life prevail—a lion, tiger, and camel; the latter being suited to verse wide sandy deserts, and to endure privatio drought for a greater length of time than other b of burden. America has the condor, the Washi eagle, the llama, and other great birds and beas prey peculiar to itself. A remarkable distinctio animal forms is that found in Australia. Ther will be afterwards mentioned, the quadruped race furnished with pouches for their young, and move ward by leaping, peculiarities conformable to the lity in which they happen to be placed.

EUROPE.

Europe is the smallest of the great divisions of globe, but distinguished above the rest by the char of its population, the superior cultivation of the and the flourishing condition of arts, sciences, indu and commerce, the multitude of large and well- cities, and its power and influence over the other of the world.

It is washed on three sides by the sea, which is by different names, and belongs either to the Nor Arctic or the Atlantic Ocean. A narrow strait Mediterranean separates it from Africa. On the alone it joins the mainland, being there separated Asia by an imaginary line. Europe is situated i northern frozen and the northern temperate between 10° and 63° east longitude, and 36° an north latitude. Including the islands, which co about 317,000 square miles, the whole extent of E amounts to about 3,250,000 square miles, of Russia comprises nearly one-half. The greatest le from Cape St Vincent, in Portugal, to the norther tremity of the eastern boundary, at Waygatt's, is 3,500 miles. The greatest breadth, from Cape Ma in the Morea, to the North Cape in Norway, is 2500 miles.

Europe is remarkably well watered, althoug rivers have not so long a course nor such large

racts as those in other parts of the globe, particularly in America. The principal rivers are the Ebro, the Rhone, and the Po, running into the Mediterranean; the Danube, the Dnieper, and the Dniester, into the Black Sea; the Don, into the Sea of Azoph; the Wolga, into the Caspian; the Dwina, into the Arctic Ocean; another Dwina or Duna, the Vistula, and the Oder, into the Baltic; the Elbe, Weser, and Rhine, into the North Sea; the Seine into the English Channel; the Thames into the German Ocean; the Loire and Garonne, the Duoro and Tagus, the Gaudiani and Gaudalquiver, into the Atlantic. The Wolga and Danube are the longest. By the Danube, which penetrates the continent on its southern, and the Rhine which penetrates it on its north-western side, Europe is almost cut in two by water-courses. The Rhine is celebrated for the romantic beauty of its banks, on the middle and higher part of its course. At the distance of 200 miles from the sea, it is as broad as the Thames at Westminster, and suitable for navigation with steamboats and small vessels.

Europe possesses numerous large lakes, but none so extensive as those in North America. The largest is Lake Ladoga in Russia. The lakes celebrated for their beauty and extent are Lake Constance and Lake Leman in Switzerland, or on the borders of that country.

A great part of Europe is mountainous; the southern more so than the northern. The most elevated region is Switzerland, from which there is a descent, which terminates, on the side of the North Sea and the Baltic, in low plains. The lowest and most level parts are Holland and Northern Germany, Denmark, Russia, and Prussia. The highest mountains are the Alps, in Switzerland and Italy, which spread from those countries in various directions, extend westwardly into France, and are connected by the Cevennes with the Pyrenees, which separate France from Spain. One chain of the Alps stretches south towards the Mediterranean; then, taking an easterly course, runs through Italy, under the name of the Appenines. Several branches run eastward from the Alps, through the south of Germany, as far as the Turkish provinces. Another chain, the Jura, runs to the north, and separates Switzerland from France. In the east of Europe are the Carpathian mountains, which on one side meet the Sudetic range, and on the other the mountains of Turkey in Europe. The highest mountain in Europe is Mont Blanc, in Savoy, one of the Alps, which is said to be 15,766 feet above the level of the sea.

Several of the European mountains are volcanoes; as Ætna, Vesuvius, and Hecla. It is a fact worthy of notice, that none of the volcanoes of Europe are to be found in any of the great chains of mountains which have just been enumerated. The only one on the continent is Vesuvius, and this is too much detached to be considered as properly forming one of the Appenines. Ætna, in the Island of Sicily, rising to the height of ten or eleven thousand feet above the level of the sea, is the largest European volcano. The Lipari Islands, anciently called the *Æolian*, a few miles to the north of Sicily, bear evident marks of a volcanic origin; and in several of them, subterranean fires are still in operation. Iceland, too, presents the most abundant tokens of the presence of volcanic fire, and has often suffered under its devastations; Mount Hecla is the most noted, although not the only source of the eruptions on this island. To the possession of many inland seas, and, consequently, of a line of coast very extensive in proportion to its area, Europe is greatly indebted for the great advancement of its inhabitants in civilisation; these circumstances being favourable to that intercourse without which nations never make great advances.

The chief islands belonging to Europe are—Iceland, in the north sea, lying in the 65th degree of north latitude; Great Britain, Ireland, and other British islands, in the Atlantic and German Oceans; Majorca, Minorca, Sardinia, Sicily, Corsica, Elba, the Ionian Isles, Malta, Candia, and Cyprus, in the Mediterranean Sea. The European peninsulas are six in number: Scandinavia, Jutland, Crimea, Italy, Spain, and Greece. The soil of Europe, though not equal in luxuriance to that of the tropics, is almost throughout fit for cultivation. The tracts in the northern zone are almost the only exception.

With respect to climate, Europe may be divided into three parts—the warm region, where the lemon-trees grow wild, as far as 48° north lat., having a pleasant spring, a hot summer, and short winter; the temperate, as far as 65° N., in which grain ripens; and the cold region, to the extreme north, where nothing will grow but reindeer moss, and no domestic animal can live except the reindeer. The products are not so various as in other parts of the world, and many of them were originally brought from foreign countries and naturalised; but, on the other hand, Europe can boast of a more perfect cultivation. Among the animals are horses, some of which are of the nobler breeds; horned cattle; sheep in Spain, Saxony, and England, of the finest wool; asses, goats, swine, dogs; reindeer; wild beasts of different kinds, valuable for their flesh or fur; whales, sea-cows, sea-dogs; abundance of wild and tame fowl; large quantities of fish in the seas, lakes, and rivers, among which the herring, in particular, affords sustenance to many of the inhabitants; useful insects, such as bees, silkworms, kermes, gall-flies, and Spanish flies. Oysters and pearl mussels also abound. It produces all kinds of grain, and sufficient for its consumption; beautiful garden plants; abundance of fruits, including those of southern climates, such as figs, almonds, chestnuts, lemons, oranges, olives, pomegranates, dates; also flax, hemp, cotton, madder, tobacco; the best kinds of wine; and a great variety of wood for fuel, and for house and ship building. The birch and the willow best endure the cold of the northern polar circle. Europe produces all the varieties of metals and minerals in great excellence and abundance. In gold and silver, Hungary and Transylvania are the richest; in iron, the northern countries, Sweden, Norway, and Russia. Salt of all kinds, rock, sea, and spring salt, is also abundant in Europe.

The inhabitants, estimated by Malte-Brun at 200 millions at least, are unequally distributed; in Russia and Sweden there are from fifteen to eighteen to a square mile; in the Netherlands, where the population is most dense, Italy, France, Great Britain, and Germany, the same extent supports from one hundred and fifty to two hundred and fifty persons. The inhabitants consist of several different races, speaking distinct languages. The stocks to which the principal languages belong, are—the Teutonic, which is the mother of the German, Dutch, English, Swedish, and Danish; the Latin, or Roman, now spoken only by the learned, but the mother of the Italian, French, Spanish, Portuguese, and Wallachian; the Sclavonic, to which belong the Russian, Polish, Bohemian, Bulgarian, Vandal, and the Servian, or Illyrian. Besides these, there are the modern Greek; the Turco-Tartaric; the Finnish and Hungarian; the Celtic in Wales and the north-west part of France (Bretagne); the Highlands of Scotland and Ireland; the Basque, among the Pyrenees. The most widely spoken is the German, with its kindred languages, formed by an union of the Roman with the Teutonic.

The prevailing religion is the Christian, which includes several churches, viz., the Roman Catholic, which is the most numerous; the Protestant (Lutheran, Calvinistic, and Anglican), consisting of numerous sects—Anabaptists, Mennonites, Quakers, Unitarians, Methodists, Moravians, and the Greek church. A part of the inhabitants profess the Jewish, a part the Mahommedan religion. Among the Laplanders and Samoeides, there are also some heathens, but their number is small.

Agriculture has made great advances in Europe, and is daily improving. In this respect, those countries are particularly distinguished where the Teutonic languages are spoken, as also are France and a part of Italy. In no part of the world are manufactures carried to such perfection as in several of the

European countries, especially in Great Britain, France, the Netherlands, and Germany. The inhabitants work up not only native European, but also foreign products, and supply all the wants and luxuries of life. Commerce is not less active, and is promoted by well-constructed roads and canals, by well-organised posts, banks, insurance companies, commercial companies, and fairs. The commerce of Europe extends to all quarters of the world, and every sea is filled with European ships. In this respect, Great Britain is most distinguished. Europe is the seat of art and science; to her belongs the honour of discovering the most important truths, of giving birth to the most useful inventions and the finest productions of genius, and the improvement of all the sciences. In intellectual progress, the Teutonic races, and those who speak the languages derived from the Latin, have surpassed the Slavonic nations. The Turks have remained strangers, in many respects, to the literary and scientific improvement which has marked the other European nations. Eighty-five universities provide for the higher branches of education; numerous gymnasia and academies for the preparatory studies, and a great number of lower schools, particularly in Germany, are employed in educating the common people. In many places there are academies of science, and societies of all kinds, for the cultivation of the arts and sciences.

By its physical situation, Europe is divided into East and West Europe. West Europe comprises the Pyrenean peninsula (Spain and Portugal), the country west of the Alps (France), the countries north of the Alps (Switzerland, Germany, and the Netherlands), the country south of the Alps (Italy), the islands of the North Sea (Great Britain, Ireland, and Iceland), and the countries on the Baltic (Denmark, Norway, Sweden, and Prussia). East Europe contains the countries north of the Carpathian mountains (Russia and Gallicia), and the countries south of the Carpathian mountains (Hungary, in its more comprehensive sense, and Turkey).

The following are the political states of Europe:—The three empires of Austria, Russia, and Turkey; seventeen kingdoms, viz., Portugal, Spain, France, Great Britain, Holland, Belgium, Denmark, Sweden, (including Norway), Sardinia, the Two Sicilies, Greece, Prussia, Bavaria, Saxony, Hanover, and Würtemberg; one ecclesiastical state, the papal dominions; eight republics, namely, Switzerland, the Ionian Islands, San Marino, Hamburg, Lubeck, Bremen, Cracow, and Frankfort; one electorate, Hesse; six grand-duchies, Baden, Hesse-Darmstadt, Saxe-Weimar, Mecklenburg-Schwerin, Mecklenburg-Strelitz, and Tuscany; twelve duchies, viz., Oldenburg, Gotha, Meiningen, Altenburg, Brunswick, Nassau, Dessau, Bernburg, Cöthen, Modena, Parma, and Lucca; one landgraviate, viz., Hesse-Homburg; twelve principalities, viz., Hohenzollern-Hechingen, Hohenzollern-Sigmaringen, Schwarzburg-Rudolstadt, Schwarzburg-Sondershausen, Waldeck, Lippe-Detmold, Schaumburg-Lippe, Lichtenstein, Reuss-Greiz, Reuss-Schleiz, Reuss-Lobenstein, and Reuss-Ebersdorf.

Austria, Prussia, Bavaria, Saxony, Hanover, Würtemberg, Hamburg, Lubeck, Bremen, Frankfort, Hesse, and the above grand-duchies and duchies, compose the region which we call Germany, but the proper name of which, as given by the natives, is Deutschland—the land of the Teutones, an ancient people of central Europe.

THE BRITISH ISLANDS.

These islands, the most important belonging to Europe, lie at a short distance from the north-west coast of France, betwixt the Atlantic Ocean on the west and the German Ocean on the east. From their southernmost boundary upon the British Channel to the most northerly of the Shetland group, is a distance of very nearly eleven degrees, measuring from the 50th to the 61st degree of north latitude. The main island, which since the Union has been called Great Britain, is composed of two portions, with considerably distinctive features, under the names of England and Scotland. England forms the larger, the most southerly, and much the finest portion of the island, and lies betwixt the 50th and 55th degree. Scotland lies on the north of this division, and reaches the 58th degree. Ireland is a large and beautiful island lying to the west of England, from which it is separated only by a channel half a day's sail in breadth, and extends in length from 51° 10′ to 55° 20′ north latitude. Its greatest length, measuring from N E. to S W., is about 300 miles; the greatest breadth about 60 miles. The chief of the minor islands are the Isle of Man, lying in the Irish Channel; Anglesea, on the coast of Wales; the Hebrides, a series of large and small isles on the west coast of Scotland; the Orkney Islands, separated from the north point of Scotland by the Pentland Firth; and the Shetland Islands, lying considerably north of the Orkneys. Besides these, there are some islands in the British Channel, near the coast of France, called Guernsey, Jersey, Alderney, &c. Reckoning large and small, the British islands amount to some hundreds in number, but many of the smallest are not inhabited.

In 1831, the population of England and Wales was 13,894,569, of Scotland 2,365,807, and of Ireland 7,734,365; adding the number of individuals in the army and navy, 277,017, the total population amounted to 24,271,758. Reckoning the inhabitants of foreign countries subject to Great Britain, the entire population of the British empire amounts to about 118,000,000.

[It is considered unnecessary here to say any thing further of the British Islands, as they form the subject of various other articles, entitled HISTORY OF GREAT BRITAIN, DESCRIPTION OF ENGLAND, DESCRIPTION OF SCOTLAND, DESCRIPTION OF IRELAND, CONSTITUTION AND RESOURCES OF THE BRITISH EMPIRE, not to speak of the accounts of Canada, West Indies, East Indies, and other foreign possessions, each forming distinct numbers of the present work.]

FRANCE.

After Great Britain, France is usually reckoned the most powerful and influential country in Europe. In point of territorial extent and amount of population, it stands much higher than Great Britain, which is but a small country, and it likewise possesses a finer climate; nevertheless, such have been its unfortunate political and religious dissensions and misarrangements, that it has permitted itself to be outstripped in the race of improvement by England. Yet under all its backwardness, in many points France forms a great nation, well deserving of the sympathy and respect of its neighbours; and it is greatly to be desired that in future a good understanding should subsist betwixt it and Great Britain.

France is situated between latitude 42° 20′ and 51° 5′ N., and longitude 3° 51′ E. and 9° 27′ W., comprising an extent of 213,800 square miles, with a population according to official returns, in 1827, of 31,851,545. It is bordered on the north-east by the Low Countries, the Prussian province of the Lower Rhine, and Rhenish Bavaria; on the east, it is separated from Baden by the Rhine, and touches Switzerland and Sardinia; on the south, its boundaries are the Mediterranean, the Pyrenees, and the Bidassoa; the ocean bounds the rest. The island of Corsica, and the Hières, in the Mediterranean, and the Isles of Oleron, Ré Noirmoutier, Belle-Isle, Dieu, and Ushant in the Atlantic, belong to France. The foreign possessions are of little value. They are, in Asia, Pondicherry and Karical on the Coromandel coast, Yanaon in the Northern Circars, Chandernagore in Bengal, Mahe on the Malabar coast, a factory at Surat, and some factories in Arabia, containing in all 179,000 inhabitants; in Africa, Senegal, Goree, the Isle of Bourbon, and some factories, containing 99,000 inhabitants; in America, Martinique, and Gaudaloupe with its dependencies, Guiana, and the small islands of St Pierre and Miquelon, near Newfoundland, containing 225,000 inhabitants. The territory is divided into 86 departments, which generally derive their names from the rivers. They are subdivided into 363 arrondissements, 2844 cantons,

and 38,339 communes. Each department is governed by a prefect, and each arrondissement by a subprefect. The cantons have no administrative powers. The communes are under a mayor. The provincial officers generally are appointed by the home minister, only those of towns under 5000 inhabitants being appointed by the prefect.

The principal mountains of France are—1. The Vosges on the north-east. They are of a rounded outline, with gentle slopes, and afford much open pasturage. The highest summit is not more than 4500 feet high. 2. The Jura mountains lie to the south of these, and their summits rise to the height of 6000 feet. 3. Many Alpine branches intersect Dauphiny and Provence. In the centre of the kingdom are—4. The mountains of Auvergne, of volcanic origin, of which the Puy de Dome, the Monts d'Or, and the Cantal, are the most conspicuous. 5. The Cevennes lie to the south-east of the range last mentioned. Their highest summit is Mont Lozère (about 6510 feet). 6. The Pyrenees form the principal part of the boundary between France and Spain. These mountains divide the country into four great basins, the form and exposure of which necessarily have a great influence on their climate and productions. The narrow valley of the Rhone runs from north to south, while the open basins of the Seine, the Loire, and the Garonne, stretch in a north-western direction. The Adour rises in the Pyrenees, and washes the walls of Bayonne. The other rivers are principally tributaries. The Marne and the Oise fall into the Seine; the Allier, the Loire, the Sarthe, and the Mayenne, into the Loire; the Rhone receives the Saône, the Isére, the Durance, the Ain, and the Sorgue; the Tarn and the Dordogne join the Garonne. The numerous branches of these rivers are joined by canals, which form an extensive internal water communication.

In respect to soil, the richest part of France is the northern division, comprehending the provinces of Flanders, Artois, Picardy, Normandy, and the Isle of France, where there is a deep rich loam; about 16,179,590 acres in extent. The valley of the Garonne is composed of a friable sandy loam, with a calcareous mixture, and moisture sufficient for every purpose. This district contains 7,654,561 acres. The great valley of Languedoc is extremely prolific, though the soil is not so fine as that of the preceding districts. The Limagne, a valley of Auvergne, is considered to have one of the finest soils in the world. It consists of beds of earth, said to be twenty feet deep, formed from the decomposition of soft basalt. The calcareous and chalk formations are extensive. The chalk provinces are unfruitful in grain, but the genial influence of the sun allows them other riches. The calcareous loam on the borders of the chalk formation is more productive. In Bretagne, Anjou, and Maine, are immense heaths. The *landes* are extensive tracts of sandy deserts, producing nothing but broom, heath, and juniper. The most extensive are the landes of Bordeaux, twenty leagues in length by twelve in breadth. In the remaining provinces, gravel, or a gravelly sand, is the predominating soil. The woods and forests are estimated to cover a space of 18,795,000 acres. The principal are those of Ardennes, Orleans, and Fontainebleau. The northern and western coasts are formed in a great proportion by immense downs or sandbanks; and where the shores are formed by cliffs, they are seldom bold enough to be approached with safety. The harbours are therefore few. On the Mediterranean, the coast of Languedoc is very dangerous, but Provence abounds in good harbours. The culture, throughout the northern half of the kingdom, consists of wheat, barley, oats, pulse, and of late, much more than formerly, of potatoes; in the southern half, corn (particularly maize), vines, mulberries, and olives. The eastern parts, being more elevated than the western, have more rigorous winters and more ardent summers. Coal and iron are found in abundance. The most common fuel is wood.

The superficial extent of France has been recently estimated by Baron Dupin at 53,533,426 hectares, or 132,694,000 English acres. The amount of capital invested in agricultural pursuits is estimated at 37,522,061,476 francs; the gross annual produce at 4,678,708,885 francs; the expenses of cultivation at 3,334,005,515; leaving a profit of 3¼ per cent. on the capital. The produce of wheat in the best cultivated districts, and on the best soil, hardly exceeds eighteen bushels per acre: an English farmer expects twenty-five on the same extent. In 1812, the number of horses in France was 2,176,000; but in 1819, the horses and mules together amounted only to 1,657,671; at present the number is estimated at 2,500,000. The number of horned cattle is 6,973,000; of sheep, about 45,000,000. The total number of all kinds of poultry is about 51,600,000. The French are the best wine-makers in the world. The Champagne, Burgundy, Claret, Hermitage, are universally celebrated. For a long time, the choicest growths were in the hands of the church; and in the frequent changes of property which have taken place since the revolution, many vineyards have deteriorated in consequence of bad management. The brandies of France are believed to be unrivalled. The value of the whole produce of wine and brandy is about 800,000,000 francs. The culture of the vine is supposed to have increased nearly one-fourth since the revolution, owing principally to the small proprietors, each of whom endeavours to supply his own consumption by a little patch of vineyard. M. Dupin says that many hectares of French territory are yet uncultivated, merely for want of cattle to stock and manure them; that two-thirds of the inhabitants are without animal food; that more than one-third subsist entirely on oats, buckwheat, rye, chestnuts, or potatoes, and that the agricultural population is too great for the prosperity of France. Two-thirds of the population is agricultural.

France possesses a soil and climate capable of furnishing her with all the raw materials of manufacture except cotton. The manufacture of fine woollen cloths at Sedan was introduced under the auspices of Colbert. The machinery used was very defective until M. Chaptal engaged an English machinist to instruct the French artisans. Steam-engines are rare; the spinning-mills being worked chiefly by water or by horses. The quantity of native wool manufactured in 1819 was 38,000,000 kilogrammes (of about 2⅞ lbs. each), and, in 1826, 42,000,000, with 8,000,000 of imported wool; the value of the manufactured articles was 265,000,000 francs; of the raw wool, 105,000,000: the quantity exported was about one-thirteenth of the whole quantity manufactured. By the exertions of Henry IV., the mulberry-tree was cultivated in all the southern provinces. At Tours, silk stuffs for furniture are chiefly manufactured; at Ganges, and other places in the Cevennes, silk stockings. Lyons is the principal place for silk manufactures of all kinds. Paris ranks next after Lyons. In 1812, the value of the raw material amounted to 45,560,000 francs, of which 22,000,000 were the price of imported silk. The value of manufactured goods, at the same period, was 107,560,000 francs, of which less than one-third was exported. Forty years ago, the spinning of cotton by machinery was hardly practised in France. Cotton mills have been established within that period, and the manufactures of Alsace are now superior to those of England in the brilliancy of their colours. In 1812, 10,362,000 kilogrammes of cotton were spun by machinery; and in 1825, 28,000,000 of greater fineness. The cambrics, gauze, and lawn of St Quentin, Valenciennes, and Cambray, are among the most valuable products of French industry. Lace is made in great quantities.

The whole produce of the linen and hemp manufactures is estimated at 200,000,000 francs. In 1814, 100,000,000 kilogrammes of cast-iron were produced; in 1825, 160,000,000. Gilding and watch-making are carried on, chiefly in Paris, to the annual value of about 38,000,000 francs each. Printing also employs a great number of persons at Paris. In 1814, the number of

printed sheets was 45,675,039; in 1820, 80,921,302; and in 1826, 144,561,094. Notwithstanding the low price of labour in France, the industry of that country cannot enter into competition with that of England. One of the circumstances which depress it is the want of internal communication by roads and canals. The practicable roads of France are not more than one-third of the extent of those of England. The cross-roads are few, and the great roads are seldom kept in good order. The length of the canals in France is not more than one-eleventh of those of England. Another point in which France is inferior is in the use of steam-engines, attributable in part to the deficiency of coal, or the difficulty of transporting it. The total force of steam-engines in France is reckoned to be equal to that of 500,000 men; that of England is equal to a power of 8,000,000 men. All the power derived from machinery of every sort, or from constructive ingenuity, and applied to purposes of industry in France, is only one-fourth of the similar power employed in England.

The commerce of France has been very much diminished by the loss of her colonies. The value of the colonial imports, in 1788, was 227,000,000 francs; in 1824, it was only 50,000,000. The exports for 1788 amounted to 119,000,000; in 1824, to 44,000,000. The total value of exports from France in 1824 was 440,542,000 francs; of which 163,056,000 were productions of the country, and 277,486,000 manufactured articles. The amount exported to the United States was 55,000,000, being more than that to any other country. The imports for the same year were of the value of 454,861,000 francs; of which 272,873,000 francs were raw materials for manufacture, 121,957,000 natural productions for consumption, and 60,030,000 manufactured articles.

The French are descendants of the Roman provincials and ancient Gauls, and hence their language is a mixture of modified Latin and the tongue of the original inhabitants, but much altered in orthography and in tone of speech in modern times. The kingdom was for many centuries governed in a despotic manner by a line of sovereigns of different dynasties, from Clovis in the year 481, to that of the Bourbons in the person of Louis XVI., 1793. One of these monarchs, Louis XIV., who reigned during the latter half of the seventeenth century, exhausted the resources of the nation in foreign wars and personal extravagance, and, besides, greatly corrupted the manners of the people. This laid the foundation of a course of events which terminated in the national ruin and fearful outbreak of the revolution in 1789. This revolution deluged the country in blood, and ended with the establishment of a republic; but this was speedily succeeded by the elevation of Napoleon Bonaparte, first as consul, and next as emperor. The career of Napoleon closed in 1815, with the battle of Waterloo, and the Bourbons were restored by the arms of Britain and other nations. The Bourbons were expelled in 1830, since which period the reigning monarch has been Louis Philip, a descendant of the brother of Louis XIV., and in whose male descendants the monarchy is hereditary.

On the establishment of the present limited monarchy in 1830, the national constitution was reorganised on the following footing:—The king is the supreme head of the state; he commands the land and sea forces, declares war, makes treaties of peace, alliance, and commerce; appoints to all offices of the public administration, and makes all the regulations and ordinances necessary for the execution of the laws under the responsible advice of his ministers. Any of the three branches of the legislature can propose laws; the Chamber of Peers may sit without that of the Deputies only as a court of justice; peers may speak in the house at the age of twenty-five years; princes of the blood may sit in the House of Peers without a special summons from the king; the deliberations of the peers are public; the renewal of one-fifth of the deputies every year is abolished; persons are eligible as deputies at the age of twenty-five years; the deputies elect their president without the concurrence of the king; and the electors choose the officers of the electoral colleges without the interference of the king; articles 46 and 47 of the old charter, respecting amendments, and the adoption of the tax acts by the deputies, previously to being sent to the peers, are repealed; as is also article 56, exempting the ministers from impeachment, except for treason or extortion; the *prevôtal* courts are abolished; the king takes the constitutional oath, not at the time of the coronation, but on his accession, as in England. Besides this, provision is to be made, by separate laws, for—1. The trial of offences of the press by a jury; 2. The responsibility of ministers, and other agents of power; 3. For the re-election of deputies promoted to offices with salaries; 4. The annual vote of supplies for the army; 5. The organisation of the national guard; 6. The settling the rank of all naval and military officers; 7. Departmental and municipal governments founded on the elective system; 8. Public instruction provided for; liberty of teaching allowed to all; 9. The abolition of the double vote, and of the electoral candidates and their eligibility. The charter is intrusted to the protection of the national guard, and the patriotism of the nation. The charter, with the "changes and modifications expressed in the declaration of the Chamber of Deputies," was presented to Louis Philip, who, on the 9th of August 1830, took the constitutional oath; and thus the *constitution octroyée* was changed into a real contract between the ruler and the people.

By the letter of these provisions, France possesses a free constitutional government; but such is the influence of the executive, that practically the people enjoy much less liberty than the British. So unsettled, likewise, is the system of things, that a large standing army and militia force (National Guard) has to be maintained, at a heavy expense and inconvenience to the nation. In 1837, the army amounted to 300,000 men. The national expenditure in 1838 was about £44,000,000, to which the revenue was inadequate: the national debt at the same time amounted to 254,566,496 francs. The French navy, in 1836, consisted of 49 ships of the line, 62 frigates, 31 corvettes, 49 brigs, and with other vessels amounted to a total of 321.

Previously to the revolution of 1789, the Roman Catholic was the established religion, and the country contained a vast number of monasteries and convents. Latterly, since 1830, there has been no established church, but the Roman Catholic worship predominates, and is adhered to by the reigning family. In 1836 there were 14 archbishops, 66 bishops, 174 vicars-general, 660 canons, 3401 curés, 26,776 desservans, and 6184 vicaires—total of clergy, 37,275. The bishops have each about £600 a-year of salary, and the working clergy from £20 to £60 each. There are about 1,000,000 of Protestants in France. The entire cost to the state of religious establishments, Roman Catholic, Protestant, and Jewish, amounted in 1838 to 35,443,500 francs. With respect to education, France at present possesses 26 universities, 363 high-schools, or academies, in the large towns and districts, 73 normal schools for training teachers, 873 boarding-schools, 36,000 elementary schools for boys, and 11,000 elementary schools for girls. The whole are under the supreme direction of the minister of public instruction; and the total cost, in 1838, was 19,005,673 francs, or nearly £800,000.

France possesses a considerable number of towns, with populations of from five to thirty thousand, and more particularly about twelve thousand, but not many of any consequence with a larger amount of inhabitants. Paris, the capital, in 1827, had a population of 890,531, which is about half the amount of the population of London. The other chief towns are Lisle, with a population of 69,860; Rouen, 90,000; Strasburg, 49,708; Nantes, 71,739; Boulogne, 19,314; Havre, 21,049; Rheims, 34,862; Brest, 26,655; Cambray, 17,031; Lyons, with suburbs, 170,875; Marseilles, 115,943; Toulon, 30,171; Aix, 23,132; Grenoble, 22,149; Clermont, 30,010; Besançon, 28,795; St Etienne, 30,615; Dunkirk, 24,517; Amiens, 42,032; and Orleans, 40,340.

chief port in the north of France is Havre, on the Channel, and Marseilles and Toulon are the principal outlets on the south. In point of capability maritime trade, France is far inferior to Great Britain from its want of good harbours, though perhaps this circumstance is of less consequence than the peculiarities of the people, which is adverse to naval ventures.

Paris, the capital, is a beautiful city, built of white stone, situated on a flat ground, on both banks of the river Seine. Here reside the most learned and accomplished men in France, and also the court of the king in the palace of the Tuileries. At a few miles' distance is Versailles, a royal residence of extraordinary extent, built by Louis XIV., and since considerably improved. Paris has been long distinguished as a place of resort for literary and scientific characters, and in the present day is the place of publication of an immense number of books in all departments of literature; it is also celebrated as a depôt for works in the fine arts, painting, engraving, and sculpture, in which it is rather in many respects in London. The character of the French people has usually been represented as exceedingly frivolous, but in this there has been much exaggeration; and it is certain that in recent times they have demonstrated an anxious desire for improvement in the useful arts, and for a settled form of government.

SPAIN AND PORTUGAL.

Spain, or the Peninsula, as it is frequently called, is an extensive country, occupying the south-western extremity of Europe between latitude 36° and 44° N. and surrounded by the Atlantic Ocean and the Mediterranean Sea, except on the north-east, where part of the Pyrenean chain of mountains forms its boundary with France. In its dimensions, this country extends 700 miles in length by 500 in breadth, forming an area of 200,000 square miles. Portugal, afterwards to be mentioned, lies like a patch on the side of the Peninsula, facing the Atlantic. Spain, proper, is divided naturally into two principal compartments, one of which includes the central region, and the other that of the coast. The first is essentially mountainous. It consists chiefly of extensive plains traversed by lofty ridges, towering to the height of from eighteen hundred to two thousand feet. There are comparatively few trees in the country, and the air being dry, the number of rivers is not great. The principal are the Ebro, Douro, Tagus, Guadiana, and Guadalquiver; but from the bad system of things, they are not put to their full uses for navigation and trade. On the lower parts of Spain, particularly on the coast, the climate is delightful, but in the high central plains the heat is as intense in summer as the cold is severe in winter. The productions of Spain are rich and various. Iron, tin, copper, quicksilver, and indeed every valuable mineral, abound in the Peninsula. There are also a number of coal and salt mines. Wheat of the finest quality is produced in most of the provinces. The other principal productions of the soil are rice, barley, maize, rice, oil, honey, sugar, hemp, flax, cork, cotton, silk, and barilla; the wool, as is well known, is of a very superior quality. There are many fine fruits grown, as figs, oranges, pomegranates, lemons, &c. Among the animal productions, the horse of Andalusia, a province on the Mediterranean, opposite Africa, is esteemed among the finest in the world. The sheep are millions in number; and the sea-coast supplies abundance of fish.

The country is divided into 14 provinces or districts, as follow:—Navarre; Biscay; the Austrias; Galicia; Leon; Catalonia; Leon; Old Castile; New Castile; Estremadura; Valencia; Andalusia, including Cordova, Seville, and Granada; Murcia; and the Balearic Isles in the Mediterranean. The capital, and seat of the Cortes or parliament, is Madrid, in the province of New Castile, at the centre of the kingdom. Population in 1823, 201,344. The principal seaport is Cadiz.

About the *beginning of the present century*, the population of Spain amounted to 10,450,879 individuals, among whom were the following classes:—Beginning with the religious bodies, there were 140,242 clergy and monks, and 32,000 nuns, exclusive of about a fourth of the population living on their property without doing any thing; there were 100,000 individuals existing as smugglers, robbers, pirates, and assassins, escaped from prisons and garrisons; about 40,000 officials appointed to capture these, and having an understanding with them; nearly 300,000 servants, of whom more than 100,000 were unemployed and left to their shifts; 60,000 students, most of whom begged, or rather extorted, charity at night; and if to this melancholy list we add 100,000 beggars, fed at the doors of monasteries and convents, we shall find that there existed in Spain nearly 800,000 persons who were of no use in agriculture or the mechanical arts, and who were only calculated to prove dangerous to society. Having made these, we find there then remained 964,471 day-labourers, 917,197 peasants, 310,729 artisans and manufacturers, and 24,333 merchants, to sustain by their exertions upwards of ten millions of inhabitants. These results, which are as applicable at the present day, when the population has increased to about 14,000,000, as at the time when they were deduced, exhibit a state of society so radically corrupt and debased, as to render all hopes of its regeneration very nearly desperate. Lately, on the death of Ferdinand, the reigning monarch, the queen, in the capacity of regent, made a powerful attempt to establish constitutional government, which was the first step towards practical reform of abuses. Her daughter Isabella, according to the will of Ferdinand, was proclaimed queen, whereupon ensued a civil war betwixt her forces and those of her uncle Don Carlos, who wished to assume the sovereignty. This war has greatly injured Spain, and what its results may be no one can foretell.

Portugal, which lies on the western frontier of Spain, facing the Atlantic, and measures 41,500 square miles in extent, is an ancient small kingdom, intimately resembling Spain in almost every particular, and at present in much the same unsettled condition. The country possesses two fine rivers, the Douro, which forms the great maritime emporium of Oporto, and the Tagus, which is that of Lisbon, the capital. Portugal is rich in natural productions, but wants the cultivation of industrious hands. The rich mines of precious metals are now neglected, on account of want of hands and fuel. The chief source of profit is in the fruits, which are exported in abundance, particularly the orange and grape. Wines of several sorts, port and sherry in particular, are produced, and exported chiefly to England. Agriculture, commerce, the arts, every thing in short, is neglected in Portugal, which in the present day is a miserable poverty-struck country. Like Spain, it is eaten up by clergy, secular and regular; and these classes have moreover rendered at least a third part of the year holidays, greatly to the loss of the nation. The late Don Pedro, father of the present queen Maria, had the address to abolish the monastic institutions, and to sequestrate the property to the state, which was an important measure of national regeneration.

The assumption of sovereignty by Maria led to a civil war or contest betwixt her forces and those of her uncle Don Miguel, which was most injurious to the country. Miguel was ultimately defeated and expelled. The population of Portugal was stated in 1826, at 3,214,000.

ITALY.

Italy, once the seat of the Roman empire, but which, since the overthrow of that power, has never formed an independent whole, is a narrow peninsula, extending from the Alps (46° to 38° N. lat.) into the Mediterranean Sea, which on the east side of Italy is called the Adriatic, on the west, the Tuscan Sea. The Apennines, rising near the maritime Alps, are the principal chain of mountains, and stretch through the country, dividing Lombardy from the Genoese terri-

tories and Tuscany, and Tuscany from Romagna, intersecting the states of the Church, and running through the kingdom of Naples to the Strait of Messina. Upper Italy (Lombardy) is remarkably well watered. The Po, which receives a great number of rivers from the large lakes at the foot of the Alps (Lago Maggiore, di Lugano, di Como, d'Iseo, and di Garda), and the Adige, are the principal rivers. They both rise in the Alps, and flow into the Adriatic Sea. In Middle Italy (Tuscany and the states of the Church) are the Arno and the Tiber, which rise in the Apennines, and flow into the Tuscan Sea. In Lower Italy (Naples) there are no large rivers, on account of the shortness of the course of the streams from the mountains to the sea: the Garigliano is the principal. The climate is warm, without excessive heat, and generally salubrious. The winter, even in Upper Italy, is very mild: in Naples it hardly ever snows. The abundance and excellence of the productions of the soil correspond with the beauty of the climate. In many places both of the north and south there are two, and even three, crops a-year. The volcanic character of the coasts of Lower Italy is particularly remarkable in a geological point of view, especially in the region of Puzzuoli and Vesuvius. The neighbouring islands of the Mediterranean are distinguished by the same character. The present number of inhabitants is much inferior to the former population of this delightful country, the total amount being 21,397,500.

The national character of the Italians, naturally cheerful, but always marked by strong passions, has been rendered, by continued oppression, dissembling and selfish. The Italian, moreover, possesses a certain acuteness and versatility, as well as a love of money, which stamp him for a merchant. In the middle ages, Venice, Genoa, Florence, and Pisa, were the chief marts of the European commerce with the East Indies; and Italians (then called Lombards, without distinction, in Germany, France, and England) were scattered all over Europe for the purposes of trade. The discovery of a passage by sea deprived them of the India trade, and the prosperity of those republics declined. The Italian, restricted almost solely to traffic in the productions of his own country, has nevertheless always remained an able and active merchant. Before Rome had (2100 years ago) absorbed all the vital power of Italy, this country was thickly inhabited, and for the most part by civilised nations. In the north of Italy alone, which offered the longest resistance to the Romans, dwelt a barbarous people, the Gauls. Farther south, on the Arno and the Tiber, a number of small tribes, such as the Etrusci, the Samnites, and Latins, endeavoured to find safety by forming confederacies. Less closely united, and often hostile to each other, were the Greek colonies of Lower Italy, called Magna Grecia. The story of the subjection of these nations to the Roman ambition, belongs to the history of Rome. Italy, in the middle ages, was divided into Upper, Middle, and Lower Italy. The first division comprehended all the states situated in the basin of the Po; the second extended between the former and the kingdom of Naples, which formed the third.

Italy is in modern times cut up into a number of distinct states, partly independent with native princes, partly under the rule of Austria, and a portion under the civil sway of the head of the Romish church. Throughout the greater part of this fine country the system of police is wretched, and robbery is exceedingly common; commerce, agriculture, and the useful arts, are in a low condition; bigotry prevails, and the national character is reduced to the lowest moral standard. The most civilised and best governed part of Italy is Tuscany, which differs very materially from the adjacent states. In the present day, Italy is only celebrated for its music, and its collections of works in the fine arts. The following sketch gives a view of the amount of population in the five great divisions into which Italy is partitioned.

The population of the states of the Church is about 2,600,000. The capital is Rome, the seat of empire of the ancient Romans, but now greatly altered in figure and appearance, and completely changed in character; this venerable city possesses a population of 150,000. The other chief towns are—Bologna, with a population of 65,000; Ancona, 30,000; Perugia, 30,000; Ferrara, 24,000; and Ravenna, 24,000. There are other eight towns, with a population of from 7000 to 14,000.

The duchy of Tuscany, in 1826, had a population of 1,275,000 inhabitants. The capital of this state is Florence, the population of which amounts to 80,000. The other chief towns are—Leghorn, 66,000; Pisa, 20,000; Sienna, 18,000; Prato, 10,000; Pistira, 9000; Avezzo, 7000; and Costona, 5000.

Austrian Italy, or the Lombardo-Venetian kingdom, which consists of the great plain of the Po, is subdivided into the governments of Milan, Venice, Parma, and Modena. The chief towns of the state of Milan are—Milan, 151,000; Brescie, 31,000; Cremona, 26,000; Mantua, 25,000; Pavia, 21,000; Lodi, 18,000; and Como, 7600. The chief towns in the state of Venice are—Venice 101,000; Verona, 48,000; Padua, 35,000; Vicenza, 19,000; Udina, 18,000; Treviso, 15,000; Belluno, 8000 and Rovigo, 7000. The state of Parma has the town of Parma, 30,000; Placentia, 28,000; and Guastalla, 5000. The state of Modena possesses the town of Modena, 27,000; Reggio, 18,000; and Mirandola, 6000.

The Sardinian States are composed of Piedmont, Genoa, Savoy, and the Island of Sardinia, the whole of these divisions having a population of 3,831,350. The principal town and sea-port in this district is Genoa, which possesses a population of 80,000 inhabitants.

The fifth division of Italy is composed of the states now included in the kingdom of the Two Sicilies. This forms the southern, and perhaps the finest portion of the Italian peninsula, and branches out into the two smaller peninsulas of Otranto and Calabria. Naples is the chief town, with a population of 354,000 inhabitants, being thus the largest city in Italy. Naples is famed for the beauty of its environs, particularly the bay on which it is situated, and for the exceeding fineness of its climate. Sicily, an island belonging to the kingdom of Naples, measures 180 miles long by 150 in breadth, and is one of the most beautiful islands of Europe. It is chiefly distinguished for its celebrated volcano, Mount Etna. Malta, an islet in the Mediterranean, about fifty-four miles to the south of Sicily, now belongs to the British government.

RUSSIA.

The Russian empire stretches over the half of Europe, and the whole of Northern Asia, from the Baltic to the Pacific, and includes vast territories on the north-western coast of North America. It lies between lat. 38° and 79° N. It is bounded on the north by the Northern or Icy Ocean, west by Norway, Sweden, the Baltic Sea, Austria, and Prussia, and south by Turkey, the Black Sea, Persia, the Caspian Sea, Independent Tartary, and China. The total superficial area is estimated at 8,000,000 square miles, of which about 1,500,000 are situated in Europe, and 5,600,000 in Asia. The Russian dominions compose about one-seventh of the habitable globe. The surface of Russia is generally level, and some tracts of land of this flat nature, frequently bleak and barren, are called steppes. The country also possesses chains of lofty mountains in different quarters. Russia raises vast quantities of corn, which it exports; and it produces fruits and wine in abundance. The forest also yields important articles of export. Cattle of all kinds, horses, and sheep, are likewise bred in immense numbers, chiefly for the exportation of their skins. The mines of the country are productive of platina, zinc, copper, quicksilver, alum, and salt, all which are continual sources of revenue. Russia possesses various rivers of the first

magnitude, and canals are in the course of establishment on a considerable scale.

The population of Russia, including Poland and Finland, is 57,000,000, of nine different races:—1. Sclavonians 44,000,000, including the Russians (42,000,000, among whom are the Cossacks, about 600,000 capable of bearing arms) and the Poles; 2. Finns, who are scattered over the country, from Tornea and the Niemen to the Obi (3,000,000); 3. Tartars, from the Dniester to the Caucasus (2,000,000), mostly under their own government, without agriculture or firearms; 4. Georgians or Circassians (2,000,000); 5. Samoiedes; 6. Mantchoos; 7. Mongols, to whom belong the Calmucks; 8. Eastern tribes (including Tchutsches, Kuriles, and Aleutians); 9. Jews, particularly in the Polish provinces. Besides these races, there are natives of almost all countries of Europe and Asia, as Greeks, Arabs, Hindoos, Gipsies, French, English, and Danes. There are among these Russian subjects eighty tribes, differing in language, religion, and manners, from the rudest state of barbarism to the highest degree of European civilisation. The population is divided into four classes, the nobility, clergy, common people or freemen, and peasants or serfs. In 1811, the number of persons subject to do military duty was as follows:—643,135 persons engaged in trade; 6,389,269 crown peasants; 10,113,177 peasants belonging to individuals; 1,077,636 appanage peasants; 112,453 freemen; in all, 18,335,730 men. We find manufactures of leather, tallow, candles, soap, felt, coarse linen, mats of the bark of the linden tree, hard-ware and the art of dyeing, among the Russians before the time of Peter the Great; but since his reign these have been carried to much greater perfection, and many new manufactures have been introduced. In 1815, Russia contained 3253 manufacturing establishments; twenty-three of these deliver to the government annually cloth of 700,000 roubles in value, and there are, besides, one hundred and eighty-one private establishments. Drugs are prepared in forty-five laboratories; and there are distilleries of brandy, of which 120,000,000 gallons are consumed in the country. Ship-building is carried on in the large villages on the Wolga and in the sea-ports.

The government is an unlimited monarchy; the emperor is autocrat of all the Russias; the state is indivisible; the ruler cannot be, at the same time, ruler of any other country (since 1815, however, he has been king of Poland), and must be of the Greek religion. In 1797, the succession was settled in the male line, by the rules of primogeniture, and, in failure of males, in the female line. All the princes of the blood are called grand-princes. By the ukase of March 20, 1820, it was declared that only the children of a marriage acknowledged by the emperor are capable of succeeding to the throne. The highest councils are, 1, the imperial council, under the presidency of the emperor, erected Jan. 1, 1810, with four departments—that of legislation (the supreme tribunal in civil and ecclesiastical suits), that of war, that of civil and ecclesiastical affairs, and that of finance; 2, the senate, for home affairs (a deliberative body, consisting of eight departments, three of which have their seat in Moscow); 3, the holy synod; 4, the ministry of state. The ministers have a seat and voice in the imperial council and in the senate. The ministry is divided into three sections—that of foreign affairs, war, the marine, the home department, ecclesiastical affairs, education, and finance; that of the imperial treasury; and that of the public accounts, roads and canals, and justice. The whole state is divided into fifty-one governments and several provinces; of these forty are in Europe, exclusive of the Cossacks of the Don, the Cossacks of the Black Sea, and the kingdom of Poland. The military force of Russia is exceedingly great, yet nothing to excite any dread. By some accounts it is stated as having totally amounted to 870,000 men; but a vast proportion of this force is composed of irregular militia, or armed slaves. It is considered by recent writers on the subject, that the utmost amount of regular force which Russia can bring into the field is 150,000 men, infantry, cavalry, and artillery. It is indisputable that Russia has no pecuniary resources to support a large army long in the field, and therefore any fear expressed by European powers on this score is ridiculous. The principal dependence of Russia is upon England, and a quarrel with the British government would most likely lead to a serious commotion in the state. The prevailing religion is that of the Greek church, with a full toleration of all religions. The state of society is a strange mixture of refinement and barbarism. The population is composed of four different classes, as has already been mentioned. The boors or peasants are the property of the crown or of individuals; they amount to about 35,000,000, and are in a state of great poverty. They are sometimes emancipated by their owners, and are sometimes permitted to purchase their freedom. The noble families are about 150,000, comprising 750,000 individuals, and enjoy some privileges and exemptions. The freemen, not nobles or clergymen, are divided into six classes—the inhabitants of cities, the three guilds (capitalists, according to their income tax), the trades, foreigners or strangers, the notable citizens (*savans*, artists, bankers), and the colonists. In regard to rank, these classes form fourteen gradations; and all who can claim either of the eight highest are considered as noble. Distinction of any kind, however, is only gained by the possession of a superior military rank.

Debased as Russia is, it has recently made great advances in civilised usages. Science, literature, and the arts, are highly cultivated, and liberally endowed. The Russians, it seems, have not much original genius, but they are the best imitators in the world, and quickly adopt foreign manners, language, and improvements. The wretched system of territorial slavery is gradually disappearing, and the peasants are now more protected by the laws than formerly. The punishment of criminals is also becoming more lenient. Russia possesses a number of towns of from 10,000 to 30,000 inhabitants. Petersburg, the capital, has a population of 425,000, and Moscow 240,000. Petersburg, which is built upon the flat banks of the Neva, is considered to be in appearance the most splendid city in the world.

GERMANY.

Germany as it is called by the English, l'Allemagne by the French, and Deutschland by the natives themselves, is a large territory extending from the Baltic Sea on the north to the Gulf of Venice on the south, having Hungary and Russia on the east, and France and the Netherlands on the west. At its south-west corner it is touched by Switzerland. This immensely large territory occupies the bulk of the centre of Europe, and consists of an area of 250,000 square miles. The most remarkable circumstance about Germany is its being composed of a considerable number of states, each less or more independent within its own bounds, but externally dependent on the other states of the confederation, as is mentioned already under the head Constitutional Governments. Altogether, there are thirty-four monarchical states, and four free cities, which enter into a confederation as equal sovereigns. For mutual safety they compose a diet or congress, at which each state has a certain number of votes. The principal states of Germany are Prussia and Austria; Saxony, Bavaria, and Hanover, are of lesser dimensions and importance. The others do not require any notice.

In the days of Roman greatness, Germany, or Germania, as it was then called, was inhabited by a barbarous but powerful people, reckless of control, and ambitious of securing the spoils of richer nations. They broke loose at different periods, overrunning Italy and other fair portions of Europe, and, under the general appellation of Goths, finally prostrated the empire of Rome. The term Goth is now used in a contemptuous sense, but it has to be remarked that modern Europe stands indebted for its liberties to the Goths. The free institutions of Germany were carried

into England and other countries, where they have since grown and flourished; and in later times the world has received various useful arts from the same source, in particular the art of printing, which transcends all other inventions. In the eighth century, Charlemagne united the Roman imperial crown (a thing merely so in name) with the German empire, and the great territory we are speaking of was thenceforward called the Holy Roman empire of Germany. This empire lasted till its dissolution in 1806; but long before that era Germany had been broken up into states, by the enterprise of its native dukes and princes, and the name empire was little else than nominal. In 1815, the states entered into the confederation which now binds them.

This large confederated country is watered by 500 rivers, of which the principal are the Rhine, the Danube, the Weser, the Elbe, and the Oder. The most southern chain of German mountains is formed by the Tyrolese Alps, the Alps of Algau, and the Carnian and Julian Alps, running from east to west. To the south-east are the Carpathian mountains, to the north-west the Bohemian forest. There are also alpine regions on the Upper Rhine. In Northern Germany there are sandy heaths and moors, and many districts contain fertile strips only along the large rivers. On the whole, the soil is fertile, and the climate in general is temperate and healthy. The number of inhabitants is estimated at nearly 40,000,000, in 2390 towns, of which 100 have over 8000 inhabitants; 2340 market villages; 104,000 villages, and numerous small settlements. Of the inhabitants, there were in 1825, Germans, 27,705,855; persons of Slavonic origin, 5,325,000; Walloons and French, 309,000; Jews, 292,500; Italians, 188,000; Gipsies, 900; and Armenians and Greeks, 900. In the same year, the number of persons of different religious persuasions was as follows:—Roman Catholics, 18,376,300; Protestants, 15,150,500; Jews, 292,500; Greeks and Armenians, 900. It should, however, be stated, that in this enumeration there are in all likelihood many religionists who are altogether unsettled in belief, although ostensibly belonging to some communion; for in no country in the world is there such latitude in thinking upon points of faith. Germany contains 24 universities, which are attended by about 30,000 students—a class of wild young men, having habits and an appearance very different from what usually characterise attendants at colleges in Great Britain. The publishing and reading of books prevail to a great extent in Germany, which is essentially literary in its tastes. There are public libraries in 150 places, with about six millions of volumes. Ten thousand authors produce annually from about 3500 to 5000 new books. There are about 100 political journals, 220 other journals, and at least 150 periodical publications. Most of the best English productions are regularly translated and printed in Germany. It is curious that, with all this abundance of literature, and the prevalence of education, with also freedom of religious opinion, Germany is far from being a free country. It is despotically ruled by great or petty sovereigns, has only here and there the mockery of representative government, and the people in the mass are destitute of the power to better their condition. Germany, from which all our freedom sprang, is itself ranked among the least free of the nations of Christendom.

One of the chief of the small German kingdoms is Saxony, lying in the centre of Europe, and consisting principally of the plain of the river Elbe, in its upper part, with a population of 1,700,000 inhabitants. It is rich in agricultural produce, and feeds about a million and a half of sheep, the wool of which is remarkably fine and valuable. Saxony has various flourishing manufactures, linen and woollen goods being the staple. It carries on a brisk trade with various parts of the The grand centre of its commerce, and indeed Germany, is at Leipsic, one of its chief towns. *at fair is annually held*, which is attended by *from all parts of Europe*, and at which, in *the sale of books is* very great. The most elegant town in Saxony is Dresden, situated up banks of the Elbe.

Germany possesses four free cities, acting a pendent states within their own bounds, and indiv entitled to vote in the Germanic diet; namely burg, Lubeck, Bremen, and Frankfort-on-the- The independence of these towns is a remna confederacy of cities, which was established thirteenth century, under the name of the Ha League. Besides these four free cities in Germa Polish city of Cracow was declared a free city general act of the Congress of Vienna, and is un protection of Russia, Austria, and Prussia. Ha situated upon the Elbe, which flows into the Nor is one of the chief commercial and maritime Europe. It possesses a population within its te of 150,000 inhabitants.

AUSTRIA.

Austria is a monarchy now forming one of th ing powers of Europe, and is usually esteem principal of the German states. Only a portion territory, however, belongs to Germany. As a ment, it includes a number of ancient states, have been acquired and added in the course of a series of ambitious sovereigns. These are (in a to Austria Proper, composed of Upper and Austria), Bohemia, Moravia, with the alpine re Styria, Carinthia, and the Tyrol; several of the provinces, now called Gallicia; the kingdom o gary, and the Lombardo-Venetian kingdom in This great country is governed by an absolute who takes the title of emperor. It comprise than 256,399 square miles, and upwards of thi millions of inhabitants. Of these it is reckon there are twenty-two millions of Roman Catholic millions of the Greek church, two millions of tants, and half a million of Jews. The militar of the monarchy in 1819 amounted to 270,00 independent of militia. Austria numbers 777 2224 market towns, and 69,105 villages. Th populous cities are Vienna, Milan, Venice, Le and Padua. The principal sea-ports are Trieste, and Fiume; other places of trade are Vienna, Pesth, Lemberg, Brody, and Gratz.

The capital of Austria is Vienna, which is of great extent, situated on the Danube, and improved in modern times. Latterly, much h done in Austria to establish schools and educ people, by which they may ultimately be prepa the enjoyment of political freedom. Meanwhi improvements are taking place in the condition nation by the extension of trade and commerce, navigation, roads, &c.

PRUSSIA.

Prussia is one of the most remarkable kingd Europe. It has risen from nothing at the be of last century to be one of the principal com nations. The increase of its size from its dimensions, as the duchy of Brandenburg, to t dition of a first-rate kingdom, has been effected intrepidity of its people and the military charact sovereigns, particularly of Frederick II., or the Prussia, as now constituted, lies in the northern of Europe, with the Baltic Sea on the north, and on the east. It comprises the districts or prov East and West Prussia, Posen, Pomerania, B burg, Silesia, Westphalia, and the Rhenish pr which divisions include the portion of Polan was taken by Prussia at the partition of that unfortunate kingdom. The aggregate extent of the different territories amounts to 107,472 square miles, wit population of 12,500,000, upwards of eleven mil which are Germans. Prussia is considered to be weakened as a power by its large scattered of territory. The kingdom has three vulnerabl

towards Russia, Austria, and France; hence its situation is dependent. It is compelled to keep up a large military force, consisting of 180,000 regular troops, with so large an addition of irregulars, as make up in all nearly half a million of soldiers. The king of Prussia is an absolute monarch, yet he is surrounded by a spirit of freedom which necessarily influences his actions. One of the most striking features of this monarchy is the care which it bestows on science and education. The sciences are nowhere fostered with more care, and there are few countries in which common schools are more widely diffused. (See our article EDUCATION.) Prussia carries on some maritime trade by means of the Baltic, and its inland trade is promoted by the rivers Oder, Vistula, Elbe, and Saale, the Rhine, Memel, Pregel, Warta, Netze, Hanel, Spree, Weser, Moselle, &c., which either flow through Prussia or belong to it. Nine and a half millions of the inhabitants of Prussia are of the Reformed Church, and four and a half millions are Catholics.

SWITZERLAND.

Switzerland is a mountainous territory, occupying the alpine regions betwixt France and Germany, and having Italy on the south. This beautiful and romantic country has, from time immemorial, been occupied by a hardy and independent race of inhabitants, mostly attached to republican forms of government, and always ready to defend their rights and their country from the aggression of the great powers in the neighbourhood. Switzerland measures about 300 miles in length by 140 in breadth, and is supposed to contain 19,000 square miles. Politically, the country is divided into twenty-two small states or cantons, generally independent of each other, but confederated for purposes of mutual protection. Some states are more free in their forms of government than others. The total population amounts to two and a half millions, of which upwards of one-half are Protestants, and the remainder chiefly Roman Catholics and Jews. The German language is used in most cantons.

Geneva is the smallest but most populous state in proportion to its size, and in this canton is situated the town of Geneva, upon a beautiful lake of about fifty miles in length and eight or ten in breadth. The highest mountains of Switzerland are found in the cantons of Uri, Berne, Underwalden, and Grisons. Of about sixty Swiss mountains which have been measured, the highest is Monte Rosa, 15,535 feet high; the lowest, Chalet, is 3000 feet high. Mont Blanc, within the limits of Savoy, is the highest mountain in Europe, being 15,668 feet high. The mountains of Switzerland are pastoral in their lower parts, and in many instances covered at top with perpetual ice, the icy coverings being here characteristically named *glaciers*. The continual alternation of hill and dale affords the most striking natural scenes in every part of Switzerland. In some places, within a short distance, one may see at the same time all the seasons of the year; and it is often possible to stand between spring and summer, so as to collect snow with one hand, and to pluck flowers from the soil with the other. Every mountain has its waterfalls: and as their sources are sometimes lost in the clouds, the cataracts seem to descend from the skies. Switzerland abounds in lakes and rivers, the fisheries of which are valuable, and which serve to embellish the landscape; but none of the rivers are navigable. Small steam-vessels now ply on the lakes of Geneva, Zurich, Constance, and Neufchatel, and are a great convenience to travellers. The chief rivers are the Rhine, the Reuss, the Rhone, and the Tessino. The cultivation of the vine is carried on to a considerable extent in Switzerland; the breeding of cattle is, however, the chief employment of the inhabitants. Swiss cheeses are imported in great numbers into Germany, France, and Italy.

Manufactures of silk, cotton, and linen, have of late years greatly increased in Switzerland, which is rivalling England in some kinds of goods, particularly printed calicoes. Recently great improvements have been made upon the roads through this attractive territory, and travellers are now well accommodated on all the main routes.

The people of Switzerland form one of the best educated, most industrious, and best behaved nations in the world; and consequently they are generally happy and in good circumstances. Although the country does not any where touch the sea, and all goods have to be carried many miles by land journey through other states, the Swiss possess a thriving system of trade and commerce, and are rapidly advancing in a career of national prosperity, thus proving that nothing is denied to good conduct and industry.

NORWAY, SWEDEN, AND DENMARK.

These, with the province of Finland, form the north-western frontier of Europe, facing the North Sea or German Ocean, and reaching to the shore of the Baltic on the south. Norway lies on the shore of the North Sea, Sweden is behind it with its southern extremity to the Baltic, and Denmark is formed by the peninsula of Jutland, projected northwards from the Netherlands and kingdom of Hanover into the mouth of the Baltic. Norway and Sweden are now erected into a kingdom, under one sovereign, much in the same manner as England and Scotland are united. Bernadotte, one of Bonaparte's commanders, has for a number of years been the reigning monarch. The united kingdom measures 1550 miles in length by about 350 in breadth. The country is mostly mountainous and pastoral, and covered with dense forests, producing the finest timber in the world. The climate is dry and cold, but that of Sweden is warmer than that of Norway. The mineral kingdom is rich, particularly in iron, copper, and silver. The inhabitants of these countries are of the ancient Scandinavian races; hardy, honest, industrious, and kind-hearted. In the sciences, the Swedes have shown a sound and penetrating mind. The two kingdoms, Norway and Sweden, had, in 1825, a population of nearly four millions of inhabitants. Stockholm, the capital, had a population of nearly 80,000; Gottenburg, the principal commercial city, had 24,000; Christiana, the capital of the Norwegian division, had 20,600; and Bergen, the chief commercial city in Norway, 20,800. Few towns, however, number more than 4000 inhabitants, and many have scarcely 500.

The Danish monarchy is composed of the peninsula already mentioned, with some islands and detached portions. The principal of the attached territories are the duchies of Holstein and Lauenburg; likewise the Feroe Islands, in the North Sea; Iceland; the western coast of Greenland; some places in Guinea; and the city and territory of Tranquebar, in the East Indies. The exact measurement of so scattered a territory is of little moment; and it is sufficient to state, that Denmark Proper and the duchy of Scleswick contain 17,375 square miles. Denmark Proper is estimated to contain 1,230,000 inhabitants; Holstein and Lauenburg, 370,000; and the total population under the monarchy amounts to something under two millions. The people are partly Danes and partly Germans. Denmark is a level country. The coasts are low, and protected from the sea by dykes. The soil consists partly of marshes and heaths, and is on the whole but moderately fruitful. By the improvident extirpation of the woods which protected the north and north-western coasts of Jutland against the sea, vast extents of fruitful territory have become barren and sandy deserts. The staple productions are grain, rapeseed, and tobacco; and the breeding of cattle forms a principal source of profit. Denmark now contains, without including Iceland and the Feroe Islands, 100 cities, 73 boroughs, 2305 parishes, and 5500 villages. The government is an absolute monarchy. Copenhagen, situated on the east coast of the island of Zealand, is the capital, and contains a population of 105,000 inhabitants.

HOLLAND AND BELGIUM.

These countries, under the general appellation of Netherlands, occupy a large flat territory stretching southward from the confines of Denmark on the north, to France on the south; having Prussia and the small kingdom of Hanover on the east, and the North Sea or German Ocean on the west. They therefore form that part of the continent of Europe which lies opposite the east coasts of Scotland and England. The entire extent of the Netherlands amounts to 24,870 square miles. Through the centre, from east to west, flows the Rhine, one of the finest rivers in Europe, and which parts into a number of channels before pouring its waters into the ocean. On the lower part of one of these channels stands Rotterdam, a large and flourishing commercial city. The surface of the Netherlands is flat, and rich in the luxuriance of vegetation. So low is the land that it has to be protected from the sea by dykes or embankments. The country is every where intersected with canals, which are of prodigious use for commercial and general intercourse. Locally, the Netherlands are divided into a number of districts, among which the old Flemish or Flanders provinces find a place. The whole territory is nearly equally divided into the two distinct states of Holland and Belgium.

Holland is that part of the Netherlands which lies on the north-east side of the Rhine, while Belgium is upon the south-western side, or nearer to France. Holland is composed of the following provinces: North Brabant, Guelderland, North Holland, South Holland, Zealand, Utrecht, Friesland, Overyssel, Groningen, and Drenthe, being ten in number, containing in 1833 a population of 2,444,550. Of these there are 1,541,748 Protestants, 836,920 Roman Catholics, and 45,493 Jews, besides a few thousands of other sects. The country, however, is essentially Protestant, notwithstanding that all sects are freely tolerated, and their clergy paid on a nearly equal principle by the state. The established church is Presbyterian, resembling that of Scotland both in discipline and doctrine.

Holland has been for ages a commercial country, its people chiefly subsisting in some way connected with ships and maritime traffic. It is, however, not at present advancing very sensibly, owing to the people's want of enterprise, and their hatred of modern inventions and improvements. Since 1830, when the kingdom of the Netherlands was divided by a revolution into Holland and Belgium, the country has been governed separately by a constitutional monarchy. The Hague is the capital of Holland, where the government is conducted, but Amsterdam is the chief town, both for commerce and amount of population—its population was some years since upwards of 200,000. The language of Holland is a species of German, spoken nowhere else in Europe.

The districts or provinces of Luxembourg and Limburg are now considered to belong to Holland. Luxembourg lies on the south of Belgium, and Limburg in the lower valley of the Meuse, on the Belgian side of the Rhine.

Belgium, the country of the ancient Belgæ, and in later times the country of the Flemings, now consists of the provinces of Brabant, Antwerp, East and West Flanders, Hainault, Namur, and Liege, the whole measuring 12,000 English square miles, and containing 4,000,000 of inhabitants. The people of Belgium are from the same original stock as the Dutch, but circumstances have made them widely different in manners. Belgium was long held in subjection by Spain and Austria, and afterwards was attached to France, and partly from this cause the prevalent religion is Roman Catholic, and the language chiefly French. These two peculiarities give a turn to the national feelings. The Belgians, though as industrious as their neighbours the Dutch, are less steady in purpose, and more enterprising. Nevertheless, they are now a thriving people under a constitutional monarchy, with Leopold as their ki and many improvements are at present in operation in the country. Brussels, a beautiful large town in Brabant, is the capital—population about 80,000. The manufactures, internal traffic, and commerce of Belgium, are undergoing a rapid extension. The towns next to Brussels in size and importance are Antwerp, a sea-port on the Scheldt, Ghent, Bruges, Louvain, and Liege. The two main rivers are the Meuse, which falls into the Rhine, and the Scheldt.

TURKEY.

Turkey is a territory partly in Europe and partly in Asia, and is inhabited by an Asiatic-Tartar race called Turks, who in the year 1453 conquered that portion lying within the confines of Europe, formerly the metropolitan part of the western empire of the Romans, and have there ever since, at Constantinople, held a barbarous sway of this beautiful district of Europe. Turkey in Europe is separated on the south-west from Asia only by a long range of straits called the Dardanelles, and by the Black Sea, and is bounded on the northern side by the dominions of Austria and Russia. On the west it has the Adriatic Sea, which in part separates it from Greece, till lately a portion of itself. The Turkish monarchy nominally possesses Egypt and some other possessions in Africa; but, not computing these distant territories, it may be estimated that Turkey in the present day measures in Europe 178,928 square miles (but including the insecure provinces of Moldavia, Wallachia, and Servia), with a population of upwards of nine millions of inhabitants; and in Asia 425,000 square miles, with a population of above ten millions. The bulk of the population in both regions is Mahommedan, and uncivilised. The climate of Turkey is among the most delicious in the world; its soil is generally productive, and its natural appearance is beautiful.

Constantinople, the capital (called Stamhoul by the Turks), situated on the Dardanelles, a strait betwixt the Mediterranean and Black Sea, is a large and populous, though crowded and inconvenient city, excellently situated for trade, communications being carried on with it by the Mediterranean on the west, and the Black Sea on the east. Every region in Turkey yields its productions in abundance. The staple articles of export are wheat, rice, cotton, tobacco, silk, figs, and other fruits; hair, wool, and opium. Mining is totally neglected; and there is in general little manufacturing industry in the country. The inhabitants are at once extremely ignorant, proud, and slothful, and the commerce carried on is chiefly in the hands of Jews and Christians. The spread of knowledge has been sedulously prevented; printing, till lately, was carried on only by Armenians, Jews, or Greeks; and transcribing books with the pen is pursued as a common employment. Painting and sculpture are neglected, because the Koran, or Bible of the Mahommedans, forbids the imitation of the human form. A great effort was lately made by the sultan Mahmoud to introduce some civilised usages, and, among other improvements, he established a newspaper at Constantinople, in French and Turkish.

The sultan, as caliph, or successor of the prophet Mahommed, enjoys the character of Pope to the Mahommedan world, and unites the highest spiritual dignity with the supreme secular power. He has unlimited control over the property and lives of his subjects, especially of the highest officers of state, whom he can remove or put to death at will. The people have no rights. Merit, or favour, or intrigue, can raise the lowest to the highest stations. There is no hereditary nobility. The succession to the throne is hereditary in the family of Osman; the will of the people and of the janizaries has often decided upon the individual. Women are excluded from the succession. The padishah or sultan is not crowned; he is merely girded with the sword of Osman, after he has sworn to uphold the religion of Mahommed. The women of his harem are for the most part Circassians or Georgians, who have been purchased as slaves. On account of this plurality of wives, and the number of male descendants, there is generally a contest for the throne at the decease

ery monarch. Lately there has been some ...ement in this respect; still the whole arrange... the a regular succession are on a precarious ...

...most remarkable thing about the Turkish system ...nstrument is, that the Koran, or Book of Mahom... the source of all civil, political, or criminal law. ...ation to the code of laws, the interpretations of the ..., or priesthood, have great weight in the tribunals. ...ufti is not only the chief of the priests, but the ...t interpreter of the laws. His decisions are cal... The highest tribunal, the divan effendi, is held ...mes a-week by the grand vizier in his palace, or ... absence by the tchiaush-baschi. In the lower ...ts of the large cities, the mollas sit; in those of ...nces, the cadis. The students are, under them, ...secretaries of the sentences. The administration of ...e is as simple as it is prompt and energetic. The ...on punishments are the bastinado, hanging, drown... ...ocrucifying, and impaling. The court or govern... of the sultan is known by the name of the Porte, ...e Porte, or Divan, and the sultan has received ...Europeans the title of Grand Seignior. In Con... ...ople, and other parts of Turkey, English, French, ...ther Europeans from western Europe, are gene... termed Franks.

...e land forces were until recently organised on a ...ish Asiatic system. They are now modelled, ...ed, and disciplined, on the common European prin... ...and partly dressed on the same plan. The navy ...rkey has been also organised according to the ...ean system. In civil life many reforms have ...en lately effected by orders of the late Sultan ...moud (deceased 1839), and altogether the Turkish ...e may now be described as in a transitive state ...m civilisation.

GREECE.

...e north-eastern part of the Mediterranean is ...ded into two large bays or gulfs, which run far up ...the European continent; that towards the west ...s called the Adriatic, and the other the Ægean Sea. ...peninsula, or tongue of land which lies between ...em, is the original country of the Greeks. Colonies ...the same nation have, from time beyond the reach ...history, occupied the whole coasts and islands of ...these gulfs, from Sicily almost to Cyprus; but the ...ve states of the middle peninsula are those to which ...Grecian name is indebted for all its splendour; and ...this country only which is properly called Greece. ...e the situation of the Greeks in a region whose ...headlands, and islands, present a great extent of ...coast, habits of adventure and mutual intercourse ...produced among them in the earliest times, which ...the greatest influence in cherishing a national ...ng of character, and making each community ...to rival the prosperity of the others. The people ...early accustomed to make voyages, sometimes ...pacific, sometimes for war, betwixt the opposite ...s of their gulfs, guiding themselves by the stars ...island to island. From this and other circum...nces, Greece in early times attained the first rank as ...ed, or confederacy of states. (See article ANCIENT ...ece.) After being conquered by the Romans, it ...e a prey to the Turks, from whom it was in part only ...tedly wrested by a skilful rebellion or revolution.

...the present day, Greece comprises in its northern ...the districts of Albania and Macedonia; next, in ...utherly direction, Epirus and Thessaly; the Morea ...monly Peloponnesus) is an island-like peninsula, ...ed cut off from the latter divisions by a strait called ...Gulf of Lepanto. Altogether, modern Greece ...ers about 400 miles in length, and little more ...160 in general breadth. Greece is a mountainous ...romantic region, with several beautiful rivers. Its ...culture is in a very rude condition, but its com... is increasing; and the long exhausted nation is ...ually assuming a settled powerful character. A ...national monarchy, *not very well organised, has* ...been imposed on the newly erected nation by the European powers, with Otho, a Bavarian prince, as king. Athens, the chief town or capital, is now undergoing improvements, and frequently visited by strangers. The population of the continental part of Greece is stated at three millions, and nearly half a million for the islands adjacent.

ASIA.

Asia, which forms the eastern and northern portion of the great tract of land in the eastern hemisphere, is the oldest known portion of the globe, and is usually called the cradle of the human race, of nations, and of arts. It is separated from Australia by the Indian and Pacific Oceans; from America on the north-east by Behring's Straits, and on the east by the great Eastern or Pacific Ocean; from Africa by the Arabian Sea (with which is connected the Persian Gulf), and by the Arabian Gulf, or Red Sea, with the straits of Babelmandel; from Europe by the Sea of Azoph, with the Straits of Caffa, by the Black Sea with the Bosphorus, by the Sea of Marmora and the Dardanelles, and by the Grecian Archipelago. On the other hand, it is united with Africa by the desert Isthmus of Suez, and with Europe by the waters of the Wolga, which rises near the Baltic, and falls with the Ural into the Caspian Sea.

The area of Asia is about 16,175,000 square miles. It extends from 26° to 190° E. longitude, and from 2° to 78° N. latitude. Its greatest breadth, from north to south, is 4140 miles, and its greatest length about 8000. It is four times larger than Europe. It is divided into 1. Southern Asia, comprehending Natolia, Armenia, Curdistan, Syria, Arabia, Persia, Hindostan, Farther India, Siam, Malacca, Annam, Tonquin, Cochin China, Laos, Cambodia, China, Japan; 2. Middle or Upper Asia, containing Caucasus, Tartary, Bucharia, Mongolia, Tungousia; 3. Northern or Russian Asia, from 44° N. latitude, containing Kassan, Astrachan, Orenburgh, Kuban, Kabarda, Georgia, Imireta, Siberia, with the alpine regions of Daurria and Kamschatka.

The large portion of Asia composing the northern and middle divisions, inhabited by wandering Tartar races, possesses little interest, and is generally viewed as little else than a great wilderness. The parts which are important, either from their historical interest, or their present condition, are the three lobes or masses of land, partially jutting out from the continent on its southern side; the first, on the west, comprehending Arabia, Syria, and Persia; the second, or mid part, Hindostan or India; and the eastern part, China and Japan. Arabia is a fine large peninsular tract lying betwixt the Persian Gulf on the east, and the Red Sea on the west. It contains about 1,000,000 square miles, and is situated between the 12th and 30th degrees of north latitude. Its chief towns are Mecca and Medina, near the shore of the Red Sea. The southern portion is entitled Arabia Felix, or the Happy, and its northern part Arabia Petræa, or the Rocky. Adjacent to this northern division, and stretching along the border of the Mediterranean Sea, is Syria or Palestine, the ancient country of the Jews, but, along with the surrounding country, now held in subjection by the Turkish power, and in a state of barbarism. A description of PALESTINE is elsewhere given in the present work.

The district of country anciently termed Asia Minor, but now forming part of Turkey in Asia, and called Natolia or Anatolia, is a territory 650 miles long and 400 broad, having Armenia and Syria on the south, and the Mediterranean on the west. It is a fruitful and delightful part of Asia; its principal town and sea-port is Smyrna, with which a considerable traffic is carried on with western Europe.

Persia lies on the eastern shore of the Persian Gulf, between the 25th and 40th degree of north latitude. It has the Caspian Sea, or a great inland lake, on the north, and the Arabian Sea on the south. It comprises about 390,000 square miles, with a population of about 6,500,000. The people are Mahommedans, and in a

semi-barbarous condition, governed by a shah or despotic sovereign. Ispahan is the capital. Within a portion of country anciently called Mesopotamia, and now generally entitled Turkey in Asia, and lying at the head of the Persian Gulf, between Persia and Arabia, are the rivers Euphrates and Tigris, also the towns of Bagdad and Bassora. It was by these channels, the Persian Gulf, the Euphrates, and also the Red Sea, that a great trade was once carried on betwixt India and the shores of the Mediterranean Sea; now this traffic is at an end, in consequence of the barbarous state of the whole region round about, and the opening of a communication betwixt India and England. Of INDIA, and also CHINA, no account need here be given, as they are fully described in other parts of the present work.

In all parts of Asia, excepting the mid and northern regions, the climate is delightful, and Nature has spread her most bounteous gifts. "'Tis the clime of the East, the land of the sun," but sunk in false religion, superstition, and in a state of moral and intellectual torpor—"all but the spirit of man is divine"—and when or how it is to be rescued from such a condition, no one can foretell. In the southern divisions within the torrid zone, whose genial warmth converts the juices of plants to spices, balsams, sugar, and coffee, with which Asia has enriched the West Indies, the palms (sago, cocoa, date, and umbrella-palms) reach a height of 200 feet, and the white elephant attains a size surpassing that of all other quadrupeds. From hence the silk-worm was brought to Europe. This region conceals in its bosom the most beautiful diamonds, the finest gold, the best tin, &c., whilst the waves flow over the purest pearls and corals. The temperate zone has given to Europe the melon, the vine, the orange, and many of its most agreeable garden fruits, as well as the most productive farinaceous grasses, and the most charming flowers; and unites, in its productions, symmetry with richness, particularly in the western regions. Here the oldest traditions place Paradise; here lie the enchanting Cashmere and the Garden of Damascus; here blossoms the rose of Jericho, near the cedars of Lebanon. The eastern countries in the same latitude possess the tea-shrub and the genuine rhubarb. The camel, the Angora goat, the Thibetan sheep, the pheasant, and the horse, are natives of this zone. In the north blossoms the Alpine *flora* of Dauria, and from the icy soil grows the dwarf-like Siberian cedar, till, at 70°, vegetation mostly ceases. Here live the smallest of quadrupeds—the shrew-mouse of the Yenisey. Sables, ermines, foxes, otters, &c., afford the finest fur. The mineral kingdom furnishes rich ores, rare precious stones, and remarkable fossil remains of the mammoth, in high northern latitudes.

The inhabitants of Asia (amounting to 300,000,000; according to some, to 530,000,000) are divided into three great branches:—The Tartar-Caucasian, in Western Asia, exhibits the finest features of our race in the Circassian form; the Mongolian race is spread through Eastern Asia; the Malay in Southern Asia and the islands. The north is inhabited by the Samoiedes, Tchooktches, and others. Twenty-four tribes, of different language and origin, may be distinguished, some of which are the relics of scattered tribes of Nomades: Kamtschadales, Ostiacs, Samoiedes, Koriacks, Kurilians, Aleutians, Coreans, Mongols, and Kalmucks, Mantchoos (Tungoos, Daurians, and Mantchoos Proper), Finns, Circassians, Georgians, Greeks, Syrians and Armenians, Tartars and Turks, Persians and Afghans, Thibetans, Hindoos, Siamese, Malays, Annamites (in Cochin China and Tonquin), Burmese, Chinese and Japanese, besides the indigenous inhabitants of the East Indian islands, Jews and Europeans. The principal languages are the Arabian, Persian, Armenian, Turkish, Tartar, Hindoo, Malayan, Mongol, Mantchoo, Chinese, and Sanscrit. The principal religions which prevail are Mahommedanism in the western parts, the worship of the Lama of Thibet in the central region, Budhism in the Burmese territory, and Hindooism or Brahminism in India. These and other religions of the Asiatics are described in the artic HISTORY OF FALSE RELIGIONS.

AFRICA.

Africa is a vast peninsula of a triangular form, wi its narrowest point towards the south, containi 12,256,000 square miles; situated between 18° W. a 51° E. lon., and from 34° S. to 37° 30' N. lat.; bound on the north by the Mediterranean, on the east Asia, the Red Sea, and Indian Ocean, and on the sou and west by the Southern and Atlantic Oceans. It h a great breadth from east to west. The northern p tion is much larger than the southern; the great breadth, from west to east, from Cape Negro to Ca Guardafui, is 69°. Under the equator, the breadth 4500 geographical miles. The internal structure Africa is marked by many peculiarities. It posses deserts or arid sandy tracts of immense extent, unin bitable by a settled population, and only traversed troops of wild Arabs, and caravans or companies travellers on the backs of camels. In these awful s tudes, lions, tigers, and other wild animals, hunt fo prey, and dispute possession with the savages w intrude upon their domain. Africa also possesses h mensely long chains of mountains rising to an enorm height. Such are the Atlas mountains, the Mountai of the Moon, and others. The highest peak of the Cam rones is 13,000 feet above the level of the sea. Afri has few rivers suitable for navigation, and hence i impenetrable character. The principal river is t Niger or Joliba, which flows some hundreds of mil from the interior, to the Atlantic on the west coa In this quarter also are the Gambia, the Congo, a the Senegal. The Nile has been the longest and be known; it flows from Abyssinia through Egypt to t Mediterranean.

Excepting in some small spots on the sea-coast inh bited by European colonists, the whole of Africa is the possession of races of men, black and fierce savage, or very slightly civilised, and of a copper co plexion. Of the latter variety are the Moors of t extensive region of Barbary on the north, and also t modern inhabitants of Egypt. Egypt, which is fit else than the valley of the Nile, and lying adjacent Arabia Petræa, and Syria, in Asia, is the only count of Africa in which we can find any interest from hi torical recollections. It is described at length in separate number of the present work. West fro Egypt is Barbary, a country in part nominally subje to Tartary, and containing the districts of Tripoli a Tunis, also Algiers, which has lately been conquer and appropriated by the French. The empire Morocco is likewise in this northern division, in t angle of territory between the Mediterranean a Atlantic. Central Africa comprises a number of sava states, among the rest Guinea on the Atlantic coa Along this coast are certain British, French, Port guese, and Dutch possessions. Southern Africa co prises the countries inhabited by the Hottentots a Caffres, and the Cape of Good Hope, which is at t extreme southern promontory, and now forms a flouris ing British colony.

The islands considered to belong to Africa are t Madeiras, the Canaries, Cape Verd, and Azore islan also St Helena and Ascension, all in the Atlantic; a the large isle of Madagascar, with a few of small size, in the ocean to the east of the continent.

Madeira is the finest and most accessible of t African islands. It extends to about 37 miles in leng by 11 in breadth, and lies at the distance of about fi hundred miles from the coast of Barbary, in the rou of vessels proceeding from Europe to the Cape of Go Hope or India. Lying at about the 31st degree north latitude, it enjoys a delightful climate, suitab for the tender constitution of invalids. Vegetation luxuriant, and the grape grows to great perfection, a yields a fine wine, usually called Madeira. The isla is in possession of Portugal, but many English resi upon it, both for the sake of commerce and health.

The African races of men offer many points of interest to the inquirer. The majority of them are distinguished from the rest of the human family, not only by their black complexion and curly hair, but also by peculiarities in the construction of the bones of the head and even of the nerves. This seems to imply that the negro is originally a distinct race. It is thought that traces of this primitive race may still be detected here and there; for example, of the original Egyptians in the Copts, and of the Guanches (the original inhabitants of the Canaries) in the natives of Barbary. The population is probably between a hundred and a hundred and ten millions. The interior of the country must be very populous, since, within two centuries and a half, it has contributed forty millions of vigorous men to the slave-trade, and, notwithstanding, is any thing but depopulated. Even the countries along the coast are thickly peopled. Jackson computed the population of Morocco alone at seventeen millions, and the Barbary states, with Egypt, which constitute but an eighth part of the continent, contain twenty millions. The torrid Guinea has, on the whole, a numerous population; and large cities are situated on the Joliba, of which we hardly know the names. The inhabitants belong to two branches of the human family; to the black or Ethiopian race, which extends from the Joliba to the southern extremity, comprising, notwithstanding their tawny complexions, the Hottentots; and to the Caucasian race, which includes the natives of Barbary, Copts, the Arabs or Moors, the Agaziones or Abyssinians, and the nations of Nubia. The Arabs are not to be regarded as aborigines of Africa, but they have scattered themselves, and become occupants of the greater part of the north and west.

The prevailing religions are Mahomedanism, and different kinds of Paganism. The arts are exercised only on the northern coasts, where the Moors manufacture much silk, cotton, leather, and linen; an active commerce is carried on by them with the maritime nations of Europe, and, by means of caravans, a traffic, fully as important, with the interior, to which they convey their own products and those of Europe. The wants of the savage races are exceedingly simple, and every article used by them is prepared by themselves; the cloth which surrounds their loins, the hut which protects them from the weather, the bow and arrow necessary for the chase and self-defence, as well as all their household furniture, are manufactured by themselves; the gold which they collect from the surface of the earth is wrought by them into ornaments, and iron into arms. Commerce, however, with Europeans has taught them many wants, and increased their list of necessaries; among which may now be reckoned fire-arms, powder, brandy, tobacco, different kinds of cloth, glass beads, coral, &c.; for which they barter slaves, ivory, gold, and gums, the staples of Africa. The most odious branch of traffic is that carried on in the sale and export of slaves; although in some respect limited in recent times, it is calculated that still 50,000 negroes are carried off annually for the South American market. Of all the states of Africa, Barbary alone uses coin; in the rest not frequented by Europeans, money rarely serves as a medium of exchange; in some, on the western coast, cowries (small shells) are made to answer the purpose of coin; in others, pieces of salt.

AUSTRALASIA,

Which now ranks as one of the great divisions of the earth, consists of a number of large and small islands in the Indian or South Pacific Ocean, between the 10th and 45th degrees of south latitude, in a south-easterly direction from China, which is the nearest part of the Asiatic continent. These islands also lie in a south-easterly direction from India, or Hindostan. The chief island in the group is Australia or New Holland, which measures 2000 miles from east to west, and 1700 in breadth from north to south. The physical character of Australia is very peculiar. With the exception of some mountain ranges, it is generally flat, and in many places the inclination is inwards, instead of outwards, to the sea. There being a general absence of hills, clouds are not attracted over the land, and hence there is a deficiency of rain in the country; the climate is nevertheless one of the finest in the world, and no country on the globe seems so suitable for sheep pasturing. The only native quadrupeds of Australia are pouched animals, such as kangaroos, of which there are several varieties. The native human beings are of the Malay race, and in a low state of barbarism.

Australia now possesses three distinct British settlements—New South Wales, which stretches about 1500 miles along its eastern coast, and some hundreds of miles inland; South Australia, on its southern shore, which has been but recently opened for emigration; and Western Australia, or Swan River Settlement. Van Diemen's Land is another British settlement. New South Wales, which is the oldest and most populous of the Australian colonies, lies at the distance of 16,000 miles from Great Britain, and its capital, Sydney, to which most vessels proceed, is reached in from 100 to 120 days' sailing. Lying on the opposite side from us, its seasons are reversed in relation to ours; its winter is in May, June, and July, and its summer in November, December, and January. Sydney, which is agreeably situated on a fine bay of the sea, called by its discoverers Botany Bay, now possesses a population of 18,000 souls. The whole population of New South Wales, free and convict, is understood to be about 80,000, but the number of inhabitants is rapidly increasing.

South Australia, to which no convicts are allowed to be sent from England, is at present a thriving colony; the town of Adelaide is its capital.

Van Diemen's Land is an island of about the size of England, lying at a short distance south from Australia, and possessing many excellent harbours. Van Diemen's Land is more hilly and better watered than Australia, and therefore better adapted for agriculture. Its capital is Hobart Town, on its southern side. On its northern shore, opposite Australia, is Launceston, the second largest town in the island, and a busy seat of trade. The population of the island was lately estimated at 25,000, about one-half of which were convicts.

The New Zealand islands, which belong to the Australasian group, are situated at a greater distance to the east of Australia.

For a complete description of the whole of these interesting territories, we refer to the articles on the subject in the present work.

AMERICA.

The continent of America lies in the western hemisphere, in a situation altogether aloof from the continents of the Old World—as Europe, Asia, and Africa, are termed. America, or the New World, was first discovered by Columbus in the year 1492, but its coasts were not fully known to Europeans for nearly a century after that period. It was long a matter of doubt whether America was connected at its northern extremity with Asia, and many expeditions were fitted out to discover if such were really the case: it is now ascertained that it is not connected with Asia, but is a detached continent. Although Columbus is entitled to be considered the first discoverer of America, it happened that he was robbed of the honour of giving it his name by the superior address of Americus Vespucius, one of his adventurous successors. America consists of two large portions, very nearly separated by the intervening Gulf of Mexico, and only connected by a neck of land called the Isthmus of Darien. The northern portion is named North America, that in the south, South America. From its northern boundaries to the Gulf of Mexico, North America extends about 4376 miles in length, and 3000 miles wide at the broadest part. South America commences at the ninth degree of north latitude, reaching to the 56th degree south latitude, being a length of 4550 miles, by a breadth at widest of nearly 3000 miles. On this vast double continent, the works of

nature are found on a large scale, calculated to excite our wonder. Mountain ranges, plains, and rivers, are all larger and more magnificent in their proportions and appearance than those in the eastern hemisphere. The soil is also very generally fertile, and covered with the most lofty timber and luxuriant vegetation.

At the period of the discovery of America, it was found to be thinly inhabited by a number of tribes of aboriginal people, generally of a copper colour, and more or less savage in character and habits. The subsequent settlement of colonists from Spain, Portugal, Holland, England, France, and other European nations, had the effect of either extirpating these races, or of driving them westward towards the shores of the Pacific Ocean. They are now comparatively few in number. While they have decreased, the colonists have vastly increased in number by emigration, and the natural increase of population. In a general sense, North America has fallen to the share of British colonists, while South America has become the portion of the Spanish, and other bigoted and bad-managing Europeans. In the course of time, the colonists in nearly all parts have emancipated themselves from the dominion of the mother countries, and set up as independent nations. In doing so, they have embraced the opportunity of trying to establish democratic institutions, with an absence of aristocratic distinction. The greatest of the republics thus established is that of the United States of North America. A third race, the descendants of negroes imported as slaves, is rising into a large amount of population over the whole continent, partly emancipated and still partly as slaves; and being most unfortunately or inhumanely kept as a despised caste, their increasing numbers and condition are at present exciting the attention of the civilised world. It has been computed that the whites and their descendants in all parts of America amount in number to nearly fourteen millions; the Indians to eight millions; the negroes to about seven millions; and the mixed races to at least six millions—making a total of thirty-five millions: but there is yet space and fertile soil for more than five hundred millions.

South America comprises the states or independent republics of Columbia, Guiana, Brazil, Peru, Bolivia, Chili, Buenos Ayres, or the united provinces of La Plata and Patagonia. The principal range of mountains is the Andes, and betwixt these and the Atlantic are many great flat plains, receiving the name of Pampas. The rivers in South America are among the largest in the world; the principal are the Amazon, La Plata, Orinoco, Panama, Paraguay, St Francisco, and Magdalena. The principal islands are the Falkland Islands, Terra del Fuego, off the southernmost point of land, Juan Fernandez, and the Gallapagos.—For a complete account of SOUTH AMERICA, we refer to the number on that subject.

North America comprehends the following political divisions:—On the north, the country of the Esquimaux, who form independent tribes; also Greenland, a large insular or peninsular tract, stretching towards the north pole; next these, to the south, Labrador, a country belonging to Great Britain, and chiefly appropriated by hunters and natives; on the north-east coast the island of Newfoundland, a British possession; Upper and Lower Canada, and Nova Scotia and New Brunswick, also British possessions; thus the larger portion of territory in the northern part of the continent belongs to Great Britain. Adjacent to Canada, and occupying the whole frontage to the Atlantic, are the United States. Behind them, on the west coast, are the states of New Mexico, and in the north-western part a territory claimed by Russia. The extreme southern part of North America, occupying a division of the isthmus of Panama, is the state of Guatemala, which now claims to be independent. Except in Mexico, the larger proportion of the western side of the continent is still in possession of native Indian tribes, but these are quickly disappearing before the advances of civilised man. To this continent belongs a series of islands on the Atlantic side, in the seas between North and South America, now bearing the name of WEST INDIES. Among these are St Domingo, Jamaica, and other islands of importance, chiefly devoted to the culture of the sugar-cane, coffee, and other tropical productions.

North America abounds in fine large rivers, susceptible of navigation for several hundreds, and, in a few instances, thousands of miles. The principal river in the north is the St Lawrence, which issues from a series of large fresh-water lakes, the most extensive on the globe; these are Lakes Superior, Huron, Michigan, Erie, Ontario, and others. They in general divide Canada from the United States. Next in size to the St Lawrence, on the north-east coast, is the Hudson river, which enters the Atlantic at New York. The other chief rivers are the Mississippi, and its tributaries the Ohio and the Missouri. These flow through the central parts of the country, and terminate on the south at the Gulf of Mexico. The valley of the Mississippi is separated from the slopes on the Atlantic, by the Alleghany range of mountains. In the western part of the continent is a similar range, called the Rocky Mountains, which are the boundary adjacent to the slopes on the Pacific. By means of these and other water-courses, personal and commercial intercourse can be carried on to a boundless extent, and with the inexhaustible fertility of the soil, will in time render North America the most populous and wealthy region in the earth. Already, within the period of two hundred years, or more properly since the epoch of the American revolution in 1770–80, the Anglo-Saxon race, originally planted as settlers by Britain, has spread over a large portion of the country, and founded an immense number of towns and cities, and otherwise effected the most extraordinary improvements in all the arts of civilised life. The United States were lately twenty-eight in number, as follow:—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, all which are known as the New England states; New York, New Jersey, Pennsylvania, Delaware, Columbia, Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida, Louisiana, Tenessee, Kentucky, Ohio, Indiana, Illinois, Missouri, Michigan, and Arkansas. The number is constantly increasing, by the acquisition of new territories. The principal cities are Washington the capital, New York, Philadelphia, Boston, Baltimore, and New Orleans.

The principal cities or towns in the British possessions are Toronto, Montreal, Quebec, Halifax, and St John's.

For a complete account of the UNITED STATES, CANADA, and NOVA SCOTIA, we refer to the separate articles on these subjects.

POLYNESIA.

Polynesia—a word signifying "many isles"—is the name now given to the numerous groups of small islands scattered over the Pacific Ocean, but principally lying in an easterly and north-easterly direction from Australia, within about thirty degrees on both sides of the equator. They are perhaps better known under their titles of the Sandwich, Friendly, Society, and Queen Charlotte's Islands, &c. They are many thousands in number, and are inhabited by savage races, who have generally been found much more tractable than the barbarous tribes of the other parts of the world. Most of the islands are fruitful and beautiful; some are exceedingly high and romantic, and their climate is reckoned the most delicious on the globe. Otaheite is one of the principal of the Society Islands. Owhyhee, or Hawai, is the largest of the Sandwich Islands, and measures eighty-four miles in length by seventy in breadth. Here Captain Cook, in 1779, fell a victim to a sudden resentment of the natives, with whom his party unfortunately had a dispute.

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PHYSICAL HISTORY OF MAN.

THE Physical History of Man is a science which proposes to investigate the characters of the different races of the human family, as they exist in different regions of the earth. The great distinctions between the various races must have been marked with wonder at an early period; but no serious effort was made to ascertain the nature and causes of those varieties till the present century, when the subject has been illustrated by the researches of Cuvier, Blumenbach, Prichard, and some other writers. As yet the science is far from having arrived at distinct or satisfactory results; but much of what has been ascertained is nevertheless of a most interesting nature, and well deserving of general attention.

POPULATION OF THE GLOBE—RACES—THEIR GENERAL FEATURES.

Amidst the almost infinite varieties observable in the nations of the earth, naturalists have anxiously sought for well-marked characteristics, which might enable them to class the whole under a few comprehensive appellations. They have arrived at very different results; Malte-Brun, for example, describing sixteen races which he considers as broadly distinguished from each other, while others reduce these to five, and even three. The arrangement now most generally approved, and the one which we design to follow, is that of Blumenbach, which divides mankind into five leading classes or races, each distinguished by such peculiarities in the skin, hair, eyes, and shape of the head, as to stand considerably apart from the rest. They are named the CAUCASIAN, MONGOLIAN, ETHIOPIC, AMERICAN, and MALAY.

1. The CAUCASIAN race is one widely spread on the face of the globe, and, in addition to physical beauty of the highest order, is distinguished for intellectual eminence. The skin of this race may be generally described as fair; but it is susceptible of every tint, and in some nations is almost black. The hair is fine, long, curling, and of various colours. The skull is a large rounded oval, and the brow full and elevated. The face is comparatively small, oval in form, and well proportioned. The nose is arched, the chin full, and the teeth vertical. The chief families of the Caucasian variety are the *Caucasians-proper*, the *Germanic* branch, the *Celtic*, the *Arabian*, the *Libyan*, the *Nilotic*, and the *Hindostanic*.

The race of *Caucasians-proper* are traceable to the confines of the mountainous range of Caucasus, between the Black Sea and the Caspian—a region not far distant from the apparent birthplace of mankind. The Caucasians still dwelling there form at this hour the physical type of this great variety of human beings. The Circassians and Georgians are very perfectly formed, approaching closely in shape and features to the cognate race of Pelasgi or Greeks, who, emanating from this region, spread early over Greece and parts of Italy, and there founded Caucasian nations. At this day a great part of the people of Persia, and especially the upper classes, are of Caucasian descent, the remainder being Mongol Tartars, a race easily distinguishable when pure. The Persian men and women have, generally speaking, fine persons, and they are, like the whole of the pure Caucasian variety, highly imaginative, and fond of music and poetry. The tribes of Affghanistan and Koordistan belong in part to the same variety, and exhibit its wonted physical perfection.

Caucasian Race.

A small body of pure Caucasians founded the Roman nation. The personal differences between them and the Greeks, arose, doubtless, from the extensive admixture of the early Romans with the Sabines and other surrounding tribes.

The *Germanic* family, a great branch of the Caucasian variety, formed one of the mighty waves of population, which, emanating from the original seats of the race, passed over a great part of central and northern Europe, filling Germany and Scandinavia, and partly, also, Russia and Poland. In the latter regions, however, they met with Tartars from Asiatic Scythia, and the mixture of these races produced the Sclavonic subvariety, and originated the Sclavonic tongues. The decline of the Roman power brought out the Germanic tribes from their northern settlements, and, under various names, they formed new locations in the south-west of Europe. Among others, they founded the languages of England, Holland, Denmark, and Sweden, though at different periods. Robust forms, light hair, blue eyes, florid complexions, and large, broad-fronted heads, constitute the chief physical characteristics of the pure Germanic family; while, morally and intellectually, they stand pre-eminent above all the other tribes of mankind. They are conspicuous, in particular, for what may be called the *industrial virtues*, exhibiting a degree of indomitable perseverance in all improving pursuits, which has rendered them the great *inventors* of the human race. The admixture of German and Tartar blood in the north-eastern nations of Europe, has given to these darker hair and complexions than the preceding section, and has also lessened their propen-

sity to intellectual cultivation. The effects of the Tartar conquest of Russia in the twelfth century by Zenghis Khan, whose successors held the country for 200 years, will probably be observable in the career of this people for ages to come, and, indeed, perhaps as long as the race exists.

The *Celtic* branch of the Caucasians formed extensive settlements, at a very early period, in Western Europe. The whole, it may be said, of Italy, Spain, France (called Gallia Celtica), and Britain, was peopled by them. The successive commingling of races, caused by incursions of the Greeks, Romans, and Germans, did much to obliterate the traces of this variety in its pure state; yet the race, language, and name, still remain in their primitive condition on the outskirts of the original Celtic dominions. We allude chiefly to parts of Scotland and Ireland: in Brittany, Gascony, and Biscay, the traces of the people are also distinctly observable. These pure Celts show us what the physical characteristics of their ancestors were. Their frames are athletic, spare, and wiry; their foreheads narrow, and the head itself elongated; the nose and mouth large, and the cheek-bones high; in all, their features are rather harsh. In character, they are hot and fiery, but generous and brave; and they are remarkably patient of fatigue. Intellectually considered, they are acute and ingenious in the highest degree, but are deficient in that breadth and solidity of understanding which distinguishes the Germanic family.

The present population of France partakes largely of the Celtic blood, notwithstanding various invasions of the Germanic tribes, from one of which, the Franks, came the modern name of the country. From the Celts, the French people derive their proverbial vivacity of temper, their quickness of perception, their dashing bravery, and, most probably, their undeniable inconstancy and flightiness of disposition. Britain, again, has retained comparatively slight traces of her early Celtic inhabitants. A branch of the Germans had visited the island even before the invasion of the Romans; and after the latter came Dane, and Saxon, and Norman, in such numbers, that the pure aboriginal stock were left but in the Highlands of Scotland, and partly in Wales. The Scottish Lowlands had early been colonised by the Picts, a people, there is every reason to think, of Germanic origin; and subsequent intermixtures with the southern inhabitants of the island speedily gave the population still more of the Germanic character. In this manner was formed the root of the existing British nation, one of the most remarkable on the face of the earth. Inferior to no one of the Caucasian families in intellectual endowments, and possessed of indomitable courage and unbounded enterprise, it has scattered its colonies over a large portion of the globe, giving to new regions its language, its genius, and its arts. Above all, it has given origin to the great Anglo-American nation—a nation, if inferior at all, inferior only to the parent stock, in those attributes that ennoble the race. Much of the excellence that belongs to the British character, certainly arose from the preponderating infusion of Germanic blood, resulting from the incursions of the Norsemen upon the aboriginal Celts. But the sprinkling left of Celtic blood seems to have had its use also, in giving a share of vivacity to the comparatively heavy, massive temperament of the pure Germans. We may judge so from looking at the character of the unmixed Germanic families. The Dutch, for example, would evidently have been an improved race had their specific gravity of character been lightened by a little infusion of Celtic mercurialism. The Belgians have a pretty equal share of Celtic and Germanic blood in their veins; and consequently, while they display the industrial virtues of the latter race, they also show no slight admixture of Celtic flightiness.

There may appear some fancifulness in this mode of analysis, but we believe that an accurate examination of the proportions in which the Germanic and Celtic blood are mingled in all the countries of Europe, would fully bear out the views now taken. In Italy, Spain, and Portugal, infusions of Germanic blood took place, but to a comparatively slight extent. The aboriginal Celts of Spain were extensively mingled with Roman immigrants; and it may be said that, at this day, Romanised Celts, with a sprinkling of Gothic (Germanic) and Saracenic blood in their veins, form the existing population. In them, the faults of the Roman character, as well as its haughty virtues, are even yet distinctly traceable. Romanised Celts constitute the basis also of the Portuguese and Italian nations, and the preceding remark applies to their character as much as to that of the Spaniards. The languages of the three countries bear out these observations.

The subject of the Germanic and Celtic branches of the Caucasian variety of mankind, as well as of the Caucasians-proper, has been treated of at some length, because these tribes have been the great civilisers of the world. The *Egyptian* or *Nilotic* branch forms almost the only exception to this statement. Most of the existing nations of Europe can distinctly trace their origin to these Caucasian tribes. Dr Prichard traces a chain of connexion between the roots of the Sanscrit, Greek, Latin, and German languages, which leads him to imagine them to have all sprung from a common original. A remarkable similarity has been traced between the Celtic and Phœnician languages. These and other circumstances, to a certain extent, point to a common origin and place of origin; but the affiliation of nations, as Humboldt justly observes, cannot be distinctly made out in this way. Conquests and colonisations must confuse all such attempts.

After treating of the three great influxes of population which founded the past and existing nations of the European continent, the *Arabian* and *Libyan* branches of the Caucasian family fall to be noticed. Spare but active persons, skins of a light brown, allowed sometimes by unusual exposure, high foreheads, large dark eyes, oval features, with aquiline noses and small thin-lipped mouths, form the personal characteristics of the Arabs. They have occupied the confines of the present Arabia from time immemorial, and their natural habits have ever been pastoral and migratory. The Bedouin Arabs claim descent from Ishmael, and, however this may be, it is plain, from physical characteristics alone, that they are a cognate race with the Jews. The latter were originally derived from the Chaldeans, an elder branch of the Arab race settled in Babylonia, and they were a pastoral and wandering people like their congeners, until they settled in the cities of Palestine. A body of Canaanite Arabs, expelled by the Jews under Joshua, are understood to have settled in Africa, and become the nation of the Mauri or Moors. Governed by Mahomet and his successors, the Arab race rose to high consequence, and, under the name of Saracens, made great conquests of territory in Asia Minor, Africa, and in Spain. They were afterwards deprived of superiority in some of these countries, but left extensive tribes in the African continent and Asia Minor. The Berbers (or *Libyans*) are a race who seem of Arab descent, but who probably settled in Africa at a far distant date. They resemble the Arabs in person, but are more darkened in complexion. Under the name of Tuariks, they range both to the north and south of Mount Atlas. They are wilder in habits than the Arabs, but may be spoken of as the same race, and with the same capabilities. They form a large part of the existing population of the north of Africa, occupying, with the Arabs, nearly the whole of the Mediterranean shores of the continent, from the Straits of Gibraltar to Egypt; and, either under the name of Moors, of Arabs, of Tuariks, or of Felatahs, they are rapidly insinuating themselves within the tropics, obtaining every where that superiority over the Negro race, which the Caucasian family seldom fail to acquire wherever they plant the foot. It seems more than probable that the Arab race will ultimately push the Negroes from Africa; and indeed may annihilate them, as the European whites have done, or are doing, in the case of the Red Indians of America.

…e latter remains but a few centuries have been …sary to accomplish the change of populations, and …as the African continent is, many centuries may …ass away ere it rest entirely in the hands of the …ative race." The Negroes have indeed lost more …half of it already, for there can be little doubt …they once stretched to the Mediterranean. Hence …ar at first shrinks from the idea of a consummation …this; but reflection soon reconciles us to it. The …anting of one race by another does not imply the …ere destruction of individuals which it at first ap…s to do. It only, in the main, denotes a stronger …ess of population in the one race than the other; …development of numbers in the one is repressed, …other encouraged, till at length the first may be …by the other, leaving the intruding race in posses…of the soil. Generally, where such changes take …, the soil becomes the means of supporting far …re numbers than formerly.

…e Wahabees in modern times, and in past days the …ites and Idumeans, whose respective capitals …Tyre and Petra, are further specimens of Arab …. The last two tribes sprang, it is probable, from …primitive Canaanan branch, settled at Babel or …. Whatever be its ultimate destiny, we may an…ate that the Arab race will yet play a greater part …affairs of earthly affairs than it has hitherto done. …capacity of the race is high, and under favourable …umstances, as when settled in the cities of Spain, …quisitive talents for poetry, music, and the fine arts, …played themselves in no ordinary degree. Planted …ng on the fertile banks of the Niger, of which …are rapidly assuming the mastery, they might in …course there all the splendours of the Caliphate.

…e Nilotic (Coptic or Egyptian) branch of the Cau…n family, is chiefly remarkable on account of its …distinction in past times, when the tribe founded …ivilisation of the world. The Nilotic branch con…s of the Egyptians, Nubians, and Abyssinians; and, …ough these nations have long been commingled with …Arabs, producing the mixed race of Fellahs, yet …pure Nilotic characteristics can still be traced …g them. Slender persons, long limbs, and delicate …; narrow oblong foreheads, eyes elongated in a pe…r manner, long noses, with swarthy brown com…ions, seem to have been the main personal features …the old Egyptians. The pure Copts now-a-days ex…various shades of colour, from a pale olive to a …brown. The flat features and bushy hair of the …s led the traveller Volney to form the hypothesis …the old Egyptians were Negroes; but his desire to …at a liberal conclusion carried him too far. The …rous paintings since discovered, in many of …h Negroes appear as captives, exhibiting features …rly distinct from those of their Egyptian captors, …demonstrably that the Nilotic race were of the …asian variety of mankind. Even at this day, the …ans, certainly the purest descendants, as a nation, …the old Egyptians, have in no case the woolly hair, …features, or long heels of the Negro race, though …often nearly jet black in complexion. They have …Caucasian heads and forms most undeniably. At …time the banks of the Nile, from the Abyssinian …ains to the seven-streamed Delta, were peopled …e Nilotic race, it would be vain to conjecture. It …y in the case of countries far more distant from …radle of the race, that we can form any rational …ctures upon the date of immigration. It is scarcely …ecessary to add, that history proves the Copts once to …have possessed the highest intellectual capabilities.

The *Hindostanic* branch of the Caucasians presents an extraordinary variety of complexions, from a dark pale black to a beautiful brunette. Shades of olive, however, are the predominant hues. Small, elongated, and narrow heads, oval faces, noses slightly aquiline, bright black eyes, and dark glossy hair, with very short slender persons, mark the pure Hindoo race. Passing by the claims which they themselves prefer to immense antiquity, there can be no doubt that they have been longer settled as a nation than almost any on the earth. They early attained to distinction in the sciences, and particularly in mathematics, poetry, and the drama. What was the precise place of their origin has been long a matter of dispute. From the great reverence borne by them for the north, and from the unquestionable intercourse existing between them and the Egyptians in the very earliest times, as well as from the numerous points of similarity between the two nations in many important respects, a common and intermediate spot might be regarded as likely to have produced both. But conjecture on this point would be fruitless.

We have now gone over the various prominent branches of the great Caucasian family. To them we owe nearly all that dignifies the name, and enhances the happiness of the human being. All that we possess of written literature—from the poetic, historical, and philosophic treasures of Greece and Rome, and the romantic creations of Arabian fancy, to the professions of the modern press—has emanated from the Caucasian variety of mankind. The Pelasgian branch in ancient times, and the Teutonic or Germanic in modern ages, have been most distinguished for their institutions, and the various gradations of the higher intellectual powers.

The Germans, in an early age of their history, were the first who raised WOMAN from the condition of a slave to that of an equal with man, and made her a partner in his powers and rights. The importance of this change is best shown by the fact, that, to woman's condition among them at this hour, the Mongols and other varieties of men certainly owe much of their inferiority. Free political institutions, elective senates, and jury trials, came from the Germanic race. They were the discoverers of printing, of the compass, of the steam-engine, of gunpowder (a great invention, however abused), and of accurate time-measurers. To these discoveries numerous others might be added; but when we think how much the happiness of man now depends even on these few, we feel it unnecessary to extend the list. The Caucasians-proper, and the Celtic family, have shown surprising genius in many departments of intellectual exertion, but, in all the industrial arts that bear practically on human comfort, they must yield the palm of merit to the Germanic family.

2. The MONGOLIAN variety, as regards numbers, is a family of vast importance; the tribes of the Mongol-Tartars, the Turks, the Chinese, the Indo-Chinese, and the Polar races, being included in it. These tribes cover an immense portion of Asia, from the line of the Ural and Himmaleh mountains to Behring's Straits; and they are spread over more than one-half of North America, towards the Arctic Circle. They also occupy Greenland and a portion of the north of Europe, comprising the Finland and Lapland coasts.

Mongolian Race.

The physical characters of the Mongolian race vary considerably, but the following general description will be found to apply extensively. The skin is commonly of a sallow or olive tint, and in some cases nearly yellow; the *hair is black*, long, and straight, seldom curling;

…e Arabs are likely to be dislodged in turn by a more culti… people. While they are pushing themselves into power amid …ons of the interior, a Caucasian race, of higher civilisa… has set its foot on the Mediterranean shores of Africa, and …to push them out of their previous conquests. We refer …occupation of the Algerine coast by the French. Strange …mously the round of substitutions seems to go on! From …mense extent to which they are spreading, one would say …e Caucasians were destined to fill the earth. Certain it is, …y appear to have peculiar *capabilities for successful*

the beard usually scanty; the iris black; the nose is broad and short, and the cheek-bones broad and flat, with salient zygomatic arches; the skull is oblong, but flattened at the sides, so as to give an appearance of squareness; and the forehead is low. In intellectual character, the Mongolians are by no means defective, but they are more distinguished for imitative than inventive genius. This faculty at the same time renders them highly susceptible of cultivation. In many cases, however, tribes of this variety have arrived at considerable proficiency in literature and the arts. Their moral character is decidedly low. China, Japan, Thibet, Boutan, and Indo-China, may be mentioned as locations where the best-marked specimens of the Mongolian variety are to be observed. The Turkish and Mongol Tartar tribes have been great conquerors in past times, and have often even vanquished the Caucasians; but, in most cases, they have afterwards been repelled from their acquisitions by the Caucasians, succumbing to the apparent law of nature which gives these the ultimate superiority in all struggles with the other varieties of men. The Fins and Laplanders appear to be a remnant of some primitive Mongolian people, whom the Caucasians originally pushed to the extreme verge of the Arctic seas, and were content to leave there. The Esquimaux, as well as the people of Finland and Lapland, have some physical peculiarities distinguishing them from other Mongolians, but these seem to be the effect chiefly of local position, which undoubtedly exercises a *degree* of influence on the human frame.

3. The ETHIOPIC or BLACK variety of mankind are characterised by complexions of jetty hue, black woolly hair, eyes large and prominent, nose broad and flat, thick lips, and wide mouth; the head is long and narrow, the forehead low, the cheek-bones prominent, the jaws projecting, and the chin small. A long protruded heel, also, and a flat shin-bone, often distinguish this variety. The principal Ethiopic families are the Negroes of central Africa, the Caffres, the Hottentots, the natives of Australia, and some of the islanders of the Indian Archipelago and the Pacific Ocean. The lands over which this variety is spread (numbers being left out of the question), are proportionally of somewhat smaller extent than those occupied by any of the other varieties of mankind, with the exception of the Malays. The Mongolians, to be more explicit, occupy the largest share of the globe; the Caucasians (their various colonial settlements being included) stand second in this respect; the Americans occupy a portion slightly less than that of the Caucasians; the Ethiopic variety stands next in the list; and the Malays are lowest of all in the scale. The following figures will further show the proportions of these territorial holdings in a rough manner:—Mongolians, 4; Caucasians, 3; the Americans, 2¼; the Ethiopians, 2; and the Malays, 0·1-20th. The chief locations of the Ethiopic race are—Africa south of the desert of Sahara; New Holland; New Guinea; New Georgia; and a few other Polynesian islands. Most island Negroes are of a dingy brown hue. In disposition, this variety of mankind are easy, indolent, and cheerful; in intellect, the race varies much, though certainly the majority of its tribes stand low in this respect. This may be in part ascribed to want of cultivation, and opportunities for cultivation; but even while adopting this lenient view of the matter, it is impossible to shut our eyes to the fact, that the race have shown no inventive genius. They would otherwise have long ago originated the arts of civilisation for themselves, as other varieties of men certainly did. At the same time, many of the Negro r shown no mean degree of talent, and some have exhibited such address in the arts of pol war, as indicated the capability of attaining t state of intellectual advancement, had their pow properly fostered and directed.

Ethiopic or Black Race.

American Race.

4. The AMERICAN variety of mankind occu defined territorial limits. They were originall over nearly the whole of the Americas, sout sixtieth degree of north latitude, though their are now thinned, and their territorial possessi tailed, by the colonial incursions of the Cauca reddish brown complexion, long black lank ficient beard, eyes black and deep set, recedi (sometimes from artificial compression), hig bones, prominent aquiline nose, small skull, apex high and the back part flat, large m tumid lips, with fine symmetrical frames o height, form the chief physical characteristic race. "In their mental character," says Morton, by whom they have been thoroughly "the Americans are averse to cultivation, an acquiring knowledge; restless, revengeful, fon and wholly destitute of maritime adventure." writer divides the Americans into two great cla of which (Toltecans) embraces certain semi nations, as the Mexicans, Peruvians, and while the other includes all the hunting tribes America, the Brazilians, the Patagonians, the and other minor tribes, none of whom have the same capacities for cultivation as the fi tioned nations. The Americans differ much of skin and stature. Some of them are not b of a perfect copper tint. The Patagonians a most gigantic size, while the Fuegians are v in stature. Yet there are characters comm which have led accurate inquirers to set th as being throughout one and the same peopl languages have certain peculiarities found universal occurrence among them, from Ca to the far north. By those who, like Cuvier, viewed the Americans as an indigenous race, in which the New World was peopled has b ously inquired into, and it has been conjectu they either came by Behring's Straits from that some small party, in ages long past, wa accidentally across the seas to these vast shore an occurrence as the latter has been proved impossible, to say the least of it. But assu weight of evidence is in favour of the opinion Americans are, not a casual offshoot from so human family, but a people so far indigenous, and primitive, as to be derived from a comm endowed with specific and unique physical ch The manner in which they were planted in stined home, and received these peculiar ch fitting them for its inhabitation, must remain ing to this view of things, among the mysteri the Creator has seen fit to leave in darkness. deniable, it may be observed in conclusion, American race is tending to extinction.

Malay Race.

5. The MALAY variety of mankind are characterised by tawny or dark brown skins, coarse black hair, large mouth, short broad noses, seeming as if broken at the root, flat expanded faces, with projecting upper jaws, and salient teeth. The skull in this race is high, and squared or rounded, and the forehead low and broad. The moral character of the Malays, generally speaking, is of an inferior order. They are a race differing much, in some respects, from the Negro and Red Indian, being of peculiarly active temperaments, and fond of maritime enterprise. They exhibit considerable intellectual capacity, and are an ingenious people. Borneo, Java, Sumatra, the Phillipine Islands, New Zealand, part of Madagascar, and various Polynesian islands, are inhabited by this variety of men. It is extremely probable, from the fact of their being found in islands surrounded by others in the hands of the Ethiopic race, that the Malays have pushed out the less active variety from these isles, and, in short, annihilated them. It is but too likely, moreover, that the Malays will in turn suffer extinction at the hands of a superior variety, or a variety rendered superior by civilisation, if not naturally so. Safely, indeed, may one prophesy that, in New Zealand, ere many years pass away, the natives will have disappeared before the European colonists. Not many months ago, the last native thus disappeared fron Van Diemen's Land. So will it be ere long with New Holland, large as that continent is. Amalgamation of races is in these cases next to impossible, and no other preventive, as already stated, could be found.

DISTRIBUTION OF THE RACES—CHANGES AND AMALGAMATIONS.

This point, really one of the most curious and important connected with man's physical history, may be illustrated by further references to the changes in geographical position, undergone by the five great varieties of mankind now described, from the earliest periods. Very few portions of the earth have retained the inhabitants by whom they are known to have been first peopled. With respect to Europe, it seems extremely probable, as Dr Prichard and others admit, that the Celtic and Germanic races were not the earliest settlers upon its territory. They pushed out, from some parts at least, a previous race, of which the Fins and Laplanders may perhaps be held to give us some idea. The Celtic population of the south of Europe were in a great measure overwhelmed by the Germanic tide from the north, and, though centuries of confusion followed the collision, the good ultimately effected by the intermixture was immense. It appeared, indeed, as if a savage people there crushed a civilised one, but the result, in reality, consisted in the infusion of healthy blood into a vitiated frame. At this day there is but one important part of Europe in the hands of the pure Mongolian race, namely Turkey. But can we doubt that at this very hour the once formidable power of the Ottomans is verging to extinction? The Caucasian states around it have gradually seized province after province, and jealousy of each other alone prevents them from at this moment annihilating the petty remnant of the Mongols left in Europe. The power of the empire is not only going to decay, but, as M. Lamartine has lately shown, the Turks are in reality becoming extinct as a people. They are sinking beneath the pressure of the superior or superiorly cultivated nations around them.

In Africa, as has been said, the Negroes have already been stripped of one-half of their continent by the Caucasian Arabs, and are likely to be ultimately extinguished by them. If the climate of the same great country had been more favourable to the pure Caucasian whites than it is, they would assuredly have taken a larger share in the occupation of it than they have done. As the case stands, their aggressions have been considerable. Not to speak of their coast stations, they have colonised the southern extremity of Africa, and the Caffres and Hottentots are falling before them, or are receding to the interior, to be finally crushed between the opposing forces of the Arabs and Europeans. The Arabs themselves are beginning to feel the retributive pressure of the French on the Mediterranean coast. In Egypt, again, we may trace striking proofs of the same grand movement. Altogether, what with the Arabs and the whites of Europe, Africa may be expected, ere many ages pass, to be in the hands of the Caucasians.

In Asia, the conquering Mongols long held extensive rule, but the semi-Caucasian power of Russia in the north, and the British in the south, have torn from them immense territories, and every few years behold additional losses on their part. Even at this time the great Mongol power of China, which, by a policy cautious to an extraordinary degree, maintained for ages its independence, has forgot itself so far as to provoke a struggle not likely to terminate until China becomes little else than a Caucasian colony. The Australian continent, and the Polynesian islands, are also on the direct way to the same consummation.

The truth of the view now taken is more remarkably borne out by the history of the Transatlantic Continent, than by that of any other country. Rapidly, indeed, have the red men of North America fallen before the march of Caucasian colonisation. The numerous islands of the Mexican Gulf have been so completely cleared of all traces of native population, that it has become a matter of doubt whether, on several of these islands, any native population ever existed. South America has been largely subjected to the same influences, and would have suffered more from them, had the Caucasians who went thither been a branch specially adapted for the business of colonists, and had not a considerable admixture of races peculiarised that colonisation. As it is, the natives have been thinned, though the amalgamation alluded to, arising from the *comparative* similarity between the races, renders the truth difficult of discovery. In short, if we look at the whole course of the past history of mankind, we shall find the Caucasian race every where gaining the ascendancy, and slowly but surely renovating the population of the world.

In those instances where an amalgamation of varieties of men has taken place to a considerable extent (and there are a few prominent cases of the kind to be observed at present on the face of the globe), a population of a most extraordinary and heterogeneous kind has been the result. In parts of South America and Mexico, not only Europeans and native Americans, but also Negroes and Malays, transported thither chiefly as slaves, have contributed to form the existing population. Europeans and Negroes produce a race called Mulattoes; the children of Europeans and native Indians are termed Mestizoes; and those of Negroes and Indians are styled Zamboes. Of course, the subvarieties are numerous—indeed, almost numberless. The European and the Mulatto produce Tercerons; the children of the Terceron and the European are called Quarterons or Quadroons; and those of Quadroons and Europeans are Quinterons. In the Quadroon, little or no vestige of dark blood is visible; but in most countries where these admixtures take place, the rights of pure white blood are only assigned to the Quinteron. Mexico, and the greater part of the states of the South American continent, including Peru, Chili, and Brazil, with the colonies and islands of the West Indies, are the chief scenes of these amalgamations of blood. Undoubtedly their immediate consequences are pernicious. The white blood is every where haughtily disposed towards the dark, and all the jealousies and oppressions of *caste* are accordingly displayed to a dread-

ful extent. Whether, out of the numerous varieties and sub-varieties of species there at present to be beheld, *one* perfect and homogeneous race shall ever be formed, is rendered doubtful by the undiminished, if not increased, eagerness with which the purity of the white blood continues to be maintained. If we could suppose that the amalgamations of different varieties of mankind were never to produce happier consequences than in these instances, we might question whether such admixtures be desirable. The experiments of amalgamation and non-amalgamation may be said to have been tried, on great scales, in the two American continents, and it is of importance to notice the issue in the respective cases. In North America, we must ere long find the aborigines extinct; and in the place of hordes of savages, stationarily pursuing the wild and warring life led by their fathers from time immemorial, will be found a great and improving race, cultivating the arts of peace, carrying human civilisation to the highest pitch, and extracting from their vast continent all the blessings with which the Creator has so liberally endowed it, and which he certainly meant not to lie unused.

The general characters of the great varieties or families of men, the mode of their distribution over the earth, and the causes which have affected, and are likely hereafter to affect, their future fate, have now occupied our attention; and our next duty is to advert to the most remarkable features of difference in the various branches of the human family.

VARIETIES OF SKIN IN MANKIND.

It has been already seen, that the Caucasians are generally distinguished by a white or fair skin, while the Mongolians are yellow, the Ethiopians black, and the Americans red or copper-coloured.

In former times, when only two varieties, the white and black, were recognised or thought of, it was supposed that complexion was simply a result of the action of the sun's rays. This idea would naturally arise from its being observed that exposure to the sun darkened a white person, while seclusion tended to bleach or whiten him; and that the black nations were those which chiefly occupied tropical countries, while the whites were placed in the temperate zone. The Greeks, who never doubted that they were the perfection and standard of human nature, and who entertained exaggerated notions of the heat of the African sun, were strongly impressed with the idea that the Negro nations had been originally white, and had been changed into black purely by the action of the solar rays. This notion continued to be set forward undoubtingly by naturalists down to the time of Buffon, and it is still the belief of the ignorant in most countries.

The views of naturalists on this subject have recently been considerably affected by the investigations of M. Flourens concerning the actual structure of the coloured skin.* The white, as is well known, has a skin composed of three integuments. First, is the outer or *scarf-skin*, a thin transparent pellicle, seemingly secreted by the parts below, and devoid of recognisable vessels or nerves. Next below, is the *rete mucosum*, a soft, pulpy net-work. Next, or undermost, is the *cutis* or true skin, a strong layer, abundantly vascular, and very sensible. It was formerly supposed that the colouring matter of the dark races lay in the *rete mucosum*, and that the only difference between the two races in that respect lay in the one having a mucous integument charged with globules of colouring matter, and the other a mucous integument in which there were no such globules. If the investigations of Flourens be correct, the difference is considerably greater. He states that, in a sufficient variety of experiments he has found the skins of Negroes and red Americans, he has beneath the *rete mucosum*, two distinct additional layers, capable of being detached, and the outer of which is the true seat of the colour of those M. Flourens considers this as a difference much important than any depending on form. Being a tural difference, he thinks it should be held as the first class, while differences of shape ought o be considered as secondary. Without following h these speculations, we may readily allow the in ance of a peculiarity which consists in a distinc additional *part*. M. Flourens, it may be rema has found the two layers also in Mulattoes. H not had an opportunity of experimenting upon M lians or Malayans; but he infers, from the other that in them also the extra integuments wou found.

M. Flourens adds, that, in the case of Eur tinged by exposure to the sun's rays, the mucou is what is affected, becoming, as it were, slightly No degree of exposure can, he thinks, conte colouring layers of the Negro and other dark He remarks, that the African Moors, who have beside the Negroes for centuries, have never ac the colouring apparatus of that race; and it ha observed by travellers (Captain Lyon among o that the Tuariks, a race of African Caucasians dark-brown complexion, are nearly as white on parts of their bodies covered up from the sun, a Europeans. It is also well known that the prog an European, however much he may have been by the sun, is invariably as white as he himself first.

The black races are localised in the warmest r of the globe, and their skin and general const seem to be fitted for their allotment. A black ma lie naked, exposed to the hottest sun, without i while the skin of the white man, if exposed to s heat, breaks out in blisters. The black man can under a burning sun with impunity; but the whit sinks under exertion made in such circumstance this is well known to be the cause why slaves w troduced from Africa into the settlements of peans in tropical America. Sir Everard Hom made some laborious investigations into this s was puzzled by the obvious physical fact that th skin must absorb more heat than the white. Bu since been suggested by Dr John Davy that th perspires most readily. "In the Negro," he say blood flows more readily through the vessels, s promote perspiration, and by that means contri to the cooling of the surface, it contributes again it flows back to the heart, to the cooling of the i parts." After quoting this remark, Dr Glover o castle says—"Were the inhabitant of the tro possessed of this organisation, his system could spond to the stimulus of heat, by a determina fluid to the surface of the body; and the heat ab by the skin being prevented from entering the by the perspiratory process, the greater *radiating* of a dark skin must be beneficial in cooling. the dark skin places the Negro in the conditions climate, by causing him to radiate heat at nig become at that time cooler than a white under th circumstances." Hence the love of the Negr night dancing and exercise.

M. Flourens deems the difference of structu tween the white and coloured races as sufficie prove that they are of different stocks, and he s ingly speaks of them as "essentially distinct But there are some considerations which great found all such conclusions, as drawn from diffe of colour alone. Colours, it is to be observed, invariable characteristics of particular races. Caucasians, it is true, are white; but then the also black Caucasians. The Hindoos are und Caucasians, being proved to be so by many cha of form. Yet the Bengalese and Malabars, v of the Hindoos, are often as black as the gener Negroes. Caucasians of similar colour are through Persia and Western Asia, into Northern It has indeed been said that the Hindoo branch

The Natural History of Man. By M. Flourens. Edinburgh Philosophical Journal, July 1826.

Caucasians alone includes every variety of colour, from the deepest black to something very nearly white. There are similar variations in at least one of the other four races. "Although the Americans," says Dr Morton, "possess a pervading and characteristic complexion [which he describes as more brown or cinnamon-coloured than red], there are occasional and very remarkable deviations, including all the tints from *a decided white to an unequivocally black skin.*" The white tribes have been found chiefly in the high regions in the northern part of South America. With such facts before us, we cannot admit that the colouring apparatus of M. Flourens decides that the races are distinct.

DIFFERENCES IN HAIR AND EYES.

Dr Prichard has endeavoured to class mankind, with a regard to the colour of their hair, into three varieties, the *Melanic*, the *Xanthous*, and the *Albino*. The Melanic, or black class, comprises all individuals or races who have black hair; the Xanthous includes all who have brown, auburn, or red hair; and the Albino all who are distinguished by white hair and red eyes. With all due deference for the able writer who proposed this arrangement, it seems one from which no distinct or useful conclusions are deducible. The hair, however, is certainly a strong individual characteristic in man. Its colouring principle is evidently the same, speaking comprehensively, with that of the skin. The hairs issue from bulbs or roots beneath the true skin, where vessels supply them with nourishment. An external horny covering, and an internal pith, constitute the body of each hair, and the pith is to some extent vascular, because liable to disease. It is, doubtless, in this vascular pith that the colouring principle lies. The fact of the pith being supplied both with vessels and nerves, is further proved by the effect which great grief can produce upon the colour of the hair. Dr Prichard had personally observed one case in which the hair grew white in a single night through grief, and many similar cases are on record. One distinguished French anatomist went so far as to assert, that in the bulbs of the hair lay the whole colouring matter of the skin; but, admitting that minute hairs exist on the general frame, we could not thus explain the black hue of the inside of the Negro's lip, which is quite free from hair. However, when we consider that the woolly hair seems to be inseparable from the jetty skin of the Negro, and the lank straight hair from the red skin of the Indian, we must believe in the existence of some strong bond between these physical characteristics.

In like manner do we trace a general correspondence between the colour of the eye and the skin and hair. The hue of the eye depends on a pigment or dye, lining the choroid coat or membrane. According to the tint of this pigment, is the eye blue, grey, brown, hazel, or black. Generally speaking, light-coloured eyes are conjoined with fair complexion and light hair, and the converse holds as commonly good. To this rule, it is well known, there are exceptions; yet Mongols, Ethiopians, Malays, and Americans, in ninety-nine cases in the hundred, show the extent of its applicability. The Caucasians display, in this respect, greater variations.

The Albinoes are scarcely to be called a variety of mankind, being a race whose peculiarities depend on *defects*. Red eyes and white hair are their chief features, though these features vary a little according to the race to which the individual belongs; and there are Albinoes to be found in almost all countries. The redness of the eye depends on the absence of pigment on the choroid coat, permitting the red blood-vessels to be seen. From a deficiency in the power of absorbing the rays of light, which purpose is served by the pigment, the eyes of Albinoes are weak. The Albinoes of the black race are called white Negroes, from the colour of their skin, and they have white woolly hair. Among the copper-coloured natives of the Darien isthmus, Albinoes are common. Their bodies are of a milk-white tint, covered with a short down; and they have white hair, with red eyes. They love such light as the moon gives, and by night are all life and activity, while by day they are miserable, the rays of the sun making their weak eyes stream with water. It is needless to dwell on this subject, however, as the Albino peculiarities are, in the main, much the same every where. Europeans of this description are sometimes exhibited in public. The connexion between skin, hair, and eyes, and the unity of the source of colour for all these parts, is very strikingly exemplified by the peculiarities of the Albino race.

SKULLS OF MANKIND.

Amongst the external distinctions of races, the form of the skull calls for particular attention. In describing these varieties, the shape of the skull of each was noticed in a general manner, and it would be observed that great differences existed with respect to this feature. From observation of an immense number of heads, Blumenbach arranged the skulls of men into three great divisions, the Caucasian, Mongolian, and Ethiopic, holding these to stand at extremes from one another. The skulls of the American and Malay seemed to him to stand intermediately between these. As, beyond all doubt (without carrying our belief to extremes, as some have perhaps done), we ought to consider the form of the skull as indicative of the intellectual powers, the distinctions in this organ necessarily become of great importance. The most perfect type of the Caucasian skull is found, as might be anticipated, in the modern Caucasians-proper, such as the Georgians. "The head [of a female Georgian, described by Blumenbach] is of the most symmetrical shape, almost round; the forehead of moderate extent; the cheek-bones rather narrow, without any projection, but having a direction downwards, from the malar process of the frontal bone; the alveolar edge well rounded; the front teeth of each jaw placed perpendicularly."

The head of the perfect Mongolian type is, says Blumenbach, "almost square; the cheek-bones projecting outwards; the nose flat; the nasal bones, and the space between the eyebrows, nearly on the same horizontal plane with the cheek-bones; the superciliary arches scarcely to be perceived; the nostrils narrow; the maxillary pit slightly marked; the alveolar edge in some degree rounded forwards; the chin slightly prominent."

In the Ethiopic variety of men, "the head is narrow, and compressed at the sides; the forehead very convex, vaulted; the cheek-bones projecting *forwards;* the nostrils wide; the maxillary pits deeply marked at points; the jaws lengthened; the alveolar edge narrow, long, and elliptical; the front teeth of the upper jaw turned obliquely forwards; the lower jaw strong and large."

In the American skull there is an approach in shape to that of the Mongol, with this difference, that the top is more rounded, and the sides less angular. The summit of the Malay head is narrowed, the forehead a little arched, and the upper jaw pushed somewhat forward. It would be superfluous to enumerate here the particular tribes marked by these varieties of skulls, as this has been done with sufficient distinctness in the general classification of the races. Of course, among Caucasians, Mongols, and Negroes, there are considerable individual differences in the form of the head, but the preceding descriptions give the type of each division.

No mode of examination exhibits so strikingly the differences in shape between the skulls of different races, as that called by Blumenbach the *vertical* method, in which the various skulls are placed in a row, resting upon the lower jaws, and are then viewed from above and behind. Examined from above, the facial bones of the Caucasian skull are scarcely visible, both from their comparative smallness of size, and because they are hidden by the rounded and well-developed forehead. A perpendicular line, falling from the middle of the br[illegible], would barely touch the front of the upper jaw.

Negro head, in the same position, presents a strong contrast to the preceding one. The narrow slanting forehead here permits the *whole face* to come into view, the cheeks and jaws being somewhat compressed laterally, and greatly elongated in front. In the case of the Mongol, again, we find a contrast not less remarkable. The bones of the nose, cheeks, and jaws, are almost equally visible as in the Negro, but are expanded on each side, not pushed angularly forward. The squareness of the Mongol head arises in a great degree from this lateral expansion of the facial bones. Dr Prichard gives to these varieties of the skull the respective names of *mesobregmate*, *stenobregmate*, and *platybregmate*—words expressive of the characters which have here been assigned to them.

This remarkable contrast in the prominency of the facial bones, conjoined, as it commonly is, with an equally striking difference in the anterior development of the skull, has been deemed by some physiologists a feature of the highest importance. Camper founded on these physical characters a scheme for estimating the degrees of intellect and sagacity bestowed by nature on the whole members of the animal kingdom possessing a skull and brain. The *facial angle*, as he termed the degree of prominency in the facial bones, was measured by him in the following way. One straight line was drawn from the ear to the base of the nose, and another from the prominent centre of the forehead to the most advancing part of the upper jaw-bone, the head being viewed in profile. "In the angle produced by these two lines," says the physiologist, "may be said to consist, not only the distinction between the skulls of the several species of animals, but also those which are found to exist between different nations; and it might be concluded that nature has availed herself, at the same time, of this angle, to mark out the diversities of the animal kingdom, and to establish a sort of scale from the inferior tribes up to the most beautiful forms which are found in the human species. Thus it will be found that the heads of birds display the smallest angle, and that it always becomes of greater extent in proportion as the animal approaches most nearly to the human figure. Thus there is one species of the ape tribe, in which the head has a facial angle of forty-two degrees; in another animal of the same family, which is one of those *simiæ* approaching most closely to the human figure, the facial angle contains exactly fifty degrees. Next to this is the head of the African Negro, which, as well as that of the Kalmuc, forms an angle of seventy degrees, while the angle discovered in the heads of Europeans contains eighty degrees. On this difference of ten degrees in the facial angle the superior beauty of the European depends; while that high character of sublime beauty, which is so striking in some works of ancient statuary, as in the head of the Apollo, and in the Medusa of Tisocles, is given by an angle which amounts to *one hundred* degrees."

Dr Prichard, in quoting this passage, remarks, that "the faculties of each race of animals seem to be perfect in relation to the sphere of existence for which they are destined;" and hence, in as far as the measurement of the facial angle is applied to the determination of the comparative intellectual characters of different tribes of the lower animals, he holds Camper's scheme to be imperfect and ineffective. As a method of distinguishing varieties in the shape of the actual cerebral case, moreover, the measurement of the facial angle is not always a safe guide. "I have now before me," says Blumenbach, "the skulls of a Lithuanian Pole and a Negro, in which the facial angles are nearly equal, but the difference between the shape of the two crania is otherwise prodigious." Nevertheless, as a general test of the mental capacity of individuals, "I think," says Prichard, "we must allow that experience is in favour of the position assumed by Camper. It is certain that every man is struck with the expression of dignity or elevation of mind and character in the ancient busts, which have a great facial angle, and that this expression would be lost if the facial angle were contracted. The fact seems, indeed, to be a general one, that men of great intellect have fully developed brains, as indicated by elevated and capacious foreheads." Since the time of Camper, it is scarcely necessary to tell the reader, the subject of craniology has been amply investigated by Dr Gall and his followers, who have founded upon their inquiries a system of mental philosophy in a great measure new to the world, and of which the fundamental principle is, that the size and form of the skull, as depending on the size and form of the brain within, denote the intellectual and moral character.

Whatever may be thought of the phrenological doctrine in its details, it is at least scarcely possible to dissent from the moderate conclusion of Dr Prichard, that "fully developed brains indicate great intellect." Hence, leaving out of the question the connexion of the development of the skull with that of the facial bones, the simple *capacity* of the cerebral case becomes in itself a matter of the highest consequence. We happily have it in our power, from the experiments of a most accurate inquirer, Professor Morton, to determine the comparative capacity of the skulls of all the varieties of mankind. The following are Professor Morton's conclusions:—

Having obtained a considerable number of the skulls of the various races of men, Dr Morton measured their internal capacity by means of white pepper seed, and found the following results:—

Races.	No. of skulls.	Mean internal capacity in cubic inches.	Largest in the series.	Smallest in the series.
1. Caucasian,	52	87	109	75
2. Mongolian,	10	83	93	69
3. Malay,	18	81	89	64
4. Aboriginal American,	147	80	100	60
5. Ethiopian,	29	78	94	65

It thus appears that the aboriginal Americans rank fourth with respect to the size of their brains, the Ethiopians being lowest and the Caucasians highest.

This result is certainly the precise one to be expected, considering the capacity of the cranium as an index of intellectual power. The Caucasian race, which stands highest in the scale, is that which has produced the most civilised nations; while the Mongolian, the next in order of capacity of cranium, has produced a number of nations which remain at a fixed point in semi-civilisation. The Malay is a degree more barbarous, and the American and Ethiopian the most barbarous of all.

Though thus compelled, both according to the views of Camper and those of other physiologists, to admit an inferiority of organisation, accompanied by inferiority of faculties, in certain races as they at present exist, there is yet an encouraging prospect to cheer us. Reasons exist for the belief, that cultivation, in the case of both races and individuals, is capable of modifying even the shape of the skull; and hence, whatever be the peculiarities attending this physical characteristic in any existing race, we are not left, in this view of things, to despair of the possibility of improvement. Without some such compensating prospect, it would be painful to admit that the protruded bones of the face, the proportionably small cerebrum, and the almost simious lowness of forehead in the Negro, indicated a natural inferiority in the race. Many writers will not, indeed, countenance this conclusion. "I have not met with an individual, out of a great number of intelligent West Indian planters and medical practitioners," says Dr Prichard, "who has not given a most positive testimony as to the natural equality of the African Negro and the European." The same writer also points to instances in which Negroes became excellent scholars, and wrote elegant Latin verses. But, on the other hand, Mr Lawrence, with many able physiologists,

gives countenance to the supposition of a decided inferiority of cerebral organisation in the Negro, attended with a corresponding inferiority of faculties. It is certainly one remarkable circumstance, that, in the majority, at least, of those cases in which Negroes exhibit striking talent, their heads are found to approach the Caucasian formation in respect of shape. Phillis Wheatley, for example, a coloured girl who wrote very pretty verses at an early age, is represented, in the plate attached to her little book, as having not only a Caucasian brow and head, but these of the finest order.

The physical characteristic now under consideration varies considerably among the white nations or Europeans. The Turks, who, though originally a Mongol race, have had their primitive physical attributes modified by continual intermixtures with Greeks, Georgians, and Circassians, present a form of skull combining, apparently, the mingled characters of the two varieties. The square Mongolian head has been rounded off in their case, and we find it to be now almost a perfect globe. The Greek head approaches the same shape. It was long asserted that the globularity of the Turkish head resulted from artificial compression in infancy, but modern physiologists discredit this notion. "A single glance at the Turkish head," says Mr Lawrence, "at the symmetrical and elegant formation of the whole fabric, the nice correspondence and adjustment of all parts, the perfect harmony between the cranium and face, in all the details of each, demonstrate most unequivocally that it is a natural formation, and a very fine work of nature, too." The writer now quoted proceeds also to remark, that, although no sufficiently extensive examinations have yet been made, the probability is, that between the European nations, such as the Germans, Swiss, Swedes, French, and others, distinct differences in the shape of the skull would certainly be found to exist on inquiry. Mr George Lewis observed in travelling on the continent, that the French have the lower and anterior parts of the cranium large, while the upper and anterior region is more prominent in the Germans. The Italian head, though comparatively small for the most part, is marked by great elegance. The Jews have long been noted for the fine Caucasian shape of their heads.

It is worthy of remark, that, though the globularity of the Turkish skull is not to be deemed the result of art, there are certainly races of people who modify the shape of the head by compression in childhood; and the views of Camper, as well as of the phrenologists, must be applied with some reservation to the skulls of one great variety of mankind. Many, very many, of the tribes of North and South America are so partial to low and retreating foreheads, that they have long been in the habit of assisting nature in producing that form of head. The comparative softness of the osseous texture at birth, and the partially mobile state of the cranial sutures, enable them to effect this object. "The Caribbs," says Labat, in his account of a voyage to the isles of the Caribbean Sea, "are all well made and proportioned; their features are sufficiently agreeable, excepting the forehead, which appears rather extraordinary, being very flat, and as it were depressed. These people are not born so, but they force the head to assume that form, by placing on the forehead of the newly born child a small plate, which they tie firmly behind. This remains until the bones have acquired their consistence; so that the forehead is flattened to that degree, that they can see almost perpendicularly above them without elevating the head." The consequence is, that the heads of these people, naturally somewhat depressed in front, become hideously so; and unnatural bulges behind show that the cerebral matter has been forced into new positions. The possibility of changing the form of the skull, has been doubted by some physiologists, but the circumstance is authenticated beyond all question. In Morton's *Crania Americana* are delineated many specimens of skulls thus altered in from, some so greatly changed by a pressure which has been applied both before and behind, as to resemble half-moons. It is not necessarily to be inferred that injury results either to the mental constitution, or the general health, of those who submit to this process. Supposing the pressure to be slow and gentle, the ductile organs will easily accommodate themselves to it, and it is probable that the brain, as far as its size or volume is concerned, will remain unaffected. A skull in Dr Leach's possession, bearing the marks of extraordinary compression, is known to have been that of a Caribb chief distinguished for intelligence and prudence.

TEETH OF MANKIND.

The general differences of features, accompanying these variations in the shape of the skull, were pointed out in going over the great divisions of the human race. The teeth of mankind differ very little in shape or position. "The oblique position," says Mr Lawrence, "of the anterior incisors in the Negroes, and some other tribes who have prominent jaws, is the only *national* difference I know of in teeth. Their size and form exhibit merely individual differences." One of the most remarkable individual varieties in the teeth, it may be observed, consists in the phenomenon of a double set in the same mouth. This is of rather rare occurrence, but the writer is aware of one instance, in which both upper and under jaw are encircled by a double row of extraordinary beauty. In case of a colonial settlement being founded by such an individual, and the dental duplicity being perpetuated in numerous descendants, would we not be apt, seeing a peculiarity so striking, to entertain doubts of the descent of the parties from the ordinarily jawed race of men?

FIGURE—PROPORTIONS—WEIGHT AND STRENGTH.

The differences which exist among the races of mankind, with respect to Figure, Proportions, and Strength, form a branch of the present subject not less interesting than any yet noticed. It has long been attempted, in the civilised regions of the world, to ascertain and fix a standard of physical perfection for the human body; and there certainly does seem to be a model, the closest approach to which combines the quality of pleasing the eye with the possession of the greatest degree of corporeal power and activity. Artists have usually looked to the model-figures of the Caucasians of Greece, or, in other words, to their ancient statues, as exemplifying the finest possible proportions of the human frame. But the taste of man varies so much, and habit modifies to such an extent his physical powers, that any standard of the kind alluded to must be open to numberless objections and exceptions. If judged of by the common artistical standard of the civilised world, certain races of men would be set down as out of proportion, and yet they possess physical powers of the most perfect kind. The Hottentot and the American savage will outrun wild animals, and hunt down the deer; the slim and "effeminate Hindoo," as we call him, will keep up with the horse for days; and the South Sea islander feels himself at home in a raging surf, which would whelm a boat or vessel. Yet these races depart widely, in many cases, from the Grecian model. Such facts show that physical power is at least not confined to men moulded after the Grecian artistical standard, though it may be that individuals so moulded would surpass in the exercises mentioned, with equal training, those otherwise fashioned.

STATURE.

Different races of men exhibit considerable diversities of stature, though there are no varieties of stature in different nations so remarkable as those which frequently occur in the same family. The tallest race of men, authentically known to exist, are the Patagonians, a tribe occupying the coast of South America, between the Rio de la Plata and the Straits of Magellan. The

territory occupied by them is of immense extent, and they are probably migratory in habits; hence a considerable degree of discrepancy in the accounts given of them by different writers. Magellan's companions declared the Patagonians to be commonly about seven feet four inches in height, English measure. Commodore Byron saw and conversed with many companies of them, and states that few were under seven feet, while others were considerably above it. Nearly six feet high himself, he could barely touch the top of a chief's head, though standing on tip-toe. Captain Wallis, again, having probably examined a different tribe, says that the majority of the Patagonians seen by him averaged from five feet ten to six feet, and that he only saw one man so tall as six feet seven. By later and accurate measurements, made by the Spaniards, we learn positively, that there are at least Patagonian tribes, reaching the average height of from six and a half to seven feet. Were they even somewhat less, they would be decidedly the tallest *race* of men existing on the face of the earth. All voyagers admit them to be large and muscular in proportion to their height.

A people situated in the polar circles of the north, stand nearly at the other extreme of the scale as respects stature. The Esquimaux, or at least some tribes of them, are for the most part between four and five feet in height, and their congeners the Laps are also a dwarfish race. They are of the Mongolian variety of mankind. The Ethiopic variety also numbers some very small tribes, and in particular the Bosjesmen, a race said to be also very commonly deformed. Among the American nations, there are also dwarfish tribes, and in particular the natives of Terra del Fuego, near neighbours of the Patagonians.

These nations only present us with the extremes of the human race, as respects stature. The subject is worthy of much more minute investigation. It would be highly interesting, and indeed instructive, to know the comparative average stature of each of the ordinary varieties and sub-varieties of mankind. Unfortunately, the observations of naturalists respecting stature have not been carried far. Quetelet and others have attentively examined the relative heights of individuals of *single* nations, at different ages, with a view to determine the general phenomena of man's growth; but few observations have been made upon the respective heights of different races or nations. The stature of the Caucasian has not been fully compared with that of the Mongol, or the Negro, or the Red Indian; nor have single nations, belonging to any of these great varieties, been satisfactorily contrasted with one another, as respects height. No accurate comparisons, for example, have yet been made of German with Spaniard, of Briton with Frenchman, or, in fact, of any one European nation with another. The following table, exhibiting the comparative heights of a small number of Englishmen and Negroes, is given in the work of Mr Lawrence upon the Natural History of Man. The Negroes were from various regions.

	Stature. Feet.	In.		Stature. Feet.	In.
An Englishman,	6	4½	A Negro,	5	10½
Ditto,	6	1	Ditto,	5	5½
Ditto,	6	0	Ditto,	5	8
Ditto,	5	9½	Ditto,	5	0
Ditto,	5	7	Ditto,	5	7½
Ditto,	5	4½			
Ditto,	5	0			

The Caucasian here has considerably the advantage of the Negro, the average height of the former class being nearly 5 feet 9 inches, while the black averages little above 5 feet 6 inches; and the advantage would still be on the same side, were we to leave the first Englishman, certainly a man of uncommon height, entirely out of the reckoning. But it must be admitted, that from such an insignificant amount of examples, no satisfactory conclusions can be drawn. The accounts of recent travellers in Africa would lead one to imagine that the majority of the Negro nations, excepting in the case of a few particular tribes, such as the Bosjesmans, are not below the Europeans in average height. The Caucasians have indeed the advantage in one respect; no tribe or section of them sinks so low in the scale of altitude as some of the other races do.

The stature of the Chinese, who must be regarded as amongst the purest specimens of the Mongol variety, was accurately and extensively measured by Mr Rollin, the surgeon who accompanied La Perouse. He found the ordinary height of the natives of the great Isle of Tchoka, on the east coast of China, to be *five French feet.** The natives of the mainland, near the same region, measured 4 feet 10 inches (French). This examination places the pure Chinese below the average height of Europeans, and, we believe, correctly. Other Mongol races have not been accurately examined, with a view to the point under consideration. In that variety of mankind, however, as in the Ethiopic division, there are individual races which stand much lower in the scale of height than any Caucasian tribe. The Esquimaux and Fins prove this assertion.

The Americans also present great differences in height; so much so, that it would be vain to attempt to discover or strike an average for the whole variety—a variety which comprises the giant Patagonians and the dwarfs of Terra del Fuego. For determining the heights of individual tribes of Americans, we have at present no better authority than the loose reports of travellers. The same may be said of the Malays; and, such being the case, it would be a waste of time to attempt any comparative estimate, having reference to these races. One conclusion may be drawn from the little which we do know, and that is, that civilisation equalises the stature of mankind, and keeps it near a steady mean. All the less cultivated races present extremes not to be observed among the Caucasians.

Professor Forbes of Edinburgh (the able successor of Leslie in the chair of Natural Philosophy) has recently made a series of experiments upon the physical differences between English, Scotch, Irish, and Belgians, the results of which constitute the most interesting information we are able to lay before the reader, with respect to the comparative heights of sub-varieties of the Caucasians. The following is a table drawn up by Professor Forbes, to exhibit the relative heights, at different ages, of the students attending his class, during a series of years, and belonging respectively to England, Scotland, and Ireland. The Belgian measurements were probably derived from other sources. The number of individuals subjected to examination was very considerable, so many as eighty Scotch and thirty English being occasionally measured at once.

Heights—Full dimensions with shoes.†

Age.	English.	Scotch.	Irish.	Belgians.
	Inches.	Inches.	Inches.	Inches.
15	64·4	64·7	...	61·8
16	66·5	66·8	...	64·2
17	67·5	67·9	...	66·1
18	68·1	68·5	68·7	67·2
19	68·5	68·9	69·4	67·7
20	68·7	69·1	69·8	67·9
21	68·8	69·2	70·0	68·0
22	68·9	69·2	70·1	68·1
23	68·9	69·3	70·2	68·2
24	68·9	69·3	70·2	68·2
25	68·9	69·3	70·2	68·3

This table places the Irishman uppermost in the scale of stature, the Scotsman second, the Englishman next, and the Belgian lowest. The comparison seems to be fair as regards the parties taken, for, if there were any peculiarity in their condition as students, it

* The French foot slightly exceeds that of England, the proportions of the former to the latter being as 1066 to 1000.

† Half an inch may be reckoned as equivalent to the shoe.

must have been common to all. As a comparison of national heights, therefore, the table perhaps exhibits conclusions pretty generally applicable, and we shall find it borne out by similar comparisons of *weight* and *strength*. Professor Forbes's observations are confirmed, in one point at least, by the following passage in Quetelet's work upon Man:—"When in England, we chose the terms of comparison from rather higher classes of society [he has been speaking of English factory *children*]; we find the stature of man rather *higher* than in France or the Low Countries, at least for young persons between eighteen and twenty-three years of age." Quetelet then alludes to eighty different measurements of Cambridge students, taken in groups of ten each. The average height of every ten was 58 feet, or 5 feet 9 inches and 3-5ths to each man. This is above Professor Forbes's average; but, as the English universities are only attended by the aristocracy, who are undeniably a section of the people above the average national stature, it is probable that, as a national comparison, Professor Forbes's table approaches nearest to the truth.

The table alluded to indicates the cessation of growth to take place at twenty-two, the case of the Belgians being the only exception. This exception may be accidental, but it is remarkable that Quetelet, a Belgian writer, and whose observations were chiefly drawn from Brussels and Brabant, lays down the following as one of his conclusions:—"It does not appear that the growth of man is entirely completed at twenty-five years of age." One can scarcely doubt the accuracy of this conclusion, which was founded on an examination of 900 individuals at the ages of nineteen, twenty-five, and thirty. It is perfectly possible, however, that climate and other circumstances may cause a difference in this respect between the Belgians and British. We learn from another of the valuable inferences made by Quetelet from his investigations, that the stature is materially influenced by residence in town or country. "The stature of the inhabitants of towns, at the age of nineteen, is greater than that of the country resident by 2 or 3 centimetres." An examination, accompanied with vast labour, of not less than 3500 individuals living in towns, and 6000 residing in the country, brought Quetelet to this conclusion, which is therefore in all probability correct, and will be found to hold good in all situations. It was only at the age of nineteen, however, that the stature of the townsman was found by Quetelet to exceed that of the rustic; and he conceives it possible, though it was not in his power to obtain full proof on the subject, that "the inhabitant of the country may attain to a greater height than the inhabitant of the town, before the completion of the full growth." The truth is, that circumstances greatly modify the rate at which the growth is developed. The law of nature on the subject is thus stated by Quetelet:—"The growth of the human being, from several months before birth up till the period of complete development, follows such a law of continuity, that the accessions of growth diminish regularly in amount, in proportion to the age." Here, of course, each successive addition of growth is considered relatively to the growth previously acquired. "We shall find," he says, "that the child increases in size 2-5ths from birth to the end of the first year; 1-7th during the second year; 1-11th during the third year; 1-14th during the fourth year; 1-15th during the fifth year; 1-18th during the sixth year, and so on; the relative growth always decreasing from the time of birth." This simple law of nature, however, is liable to be greatly affected in its operation by circumstances. "Dr Villerme remarks," says Quetelet, "that the height of man becomes greater, and the growth takes place more rapidly, other circumstances being equal, in proportion as the country inhabited is richer, the comfort more general, houses, clothes, and nourishment better, and labour, fatigue, and privations less during infancy and youth; or, in other words, the circumstances accompanying misery put off the period of the complete development of the body, and stint human stature." There can be no doubt of the accuracy of these remarks. The simple exposure to the action of cold, not to speak of toil, materially influences the growth of man; and we see this proved, conversely as well as otherwise, in all the extreme climates of the world. The warmth and luxury of cities develop rapidly the growth of all but the lowest classes. Our British gentry bear out fully the conclusion of Quetelet, that "individuals who enjoy affluence generally exceed the mean height; hard labour appears to be an obstacle to growth."

Two other conclusions, of those which Quetelet gives as the result of his patient and cautious investigations, are as follow:—"The limits of growth in the *sexes* are unequal; first, because woman is born smaller than man; secondly, because she sooner reaches her complete development; thirdly, because the annual increase of bulk which her frame receives is smaller than that of man." The seventh and last deduction is, that, "from the fiftieth year, the human body undergoes a diminution of stature, which becomes more and more marked towards the close of life." The writer does not assert that the declension is more than in appearance, and it probably is nothing more, though not less palpable to measurement than if real. On the other points it is unnecessary to make any remark. The present treatise cannot be carried beyond generalities, and we must be content, in many particulars, to regard the sexes only under the common title of mankind.

WEIGHT OF THE HUMAN BEING.

The stature, weight, and strength of the human body, form but parts of one and the same subject. Each of these properties or characteristics, if not dependent on, is at least closely related to, both the others. As the object here is to make the view of the species comprehensive rather than minute, it were to be wished that the *weight* of the body, among the various races of men, had been inquired into with some attention by naturalists. But, as in the case of the stature, this has yet been done only to a very imperfect extent. Quetelet has fully examined the comparative weight of the human body at different ages, and of differently placed individuals in a single nation; but no attempts have been made to determine the comparative weights of Mongol and Caucasian, or American and Negro. The endeavour to do so would be attended undeniably with vast trouble, and some may think the matter not worthy of it. This, however, is not a correct view of things. In all undertakings that require the exertion of physical energy, and more particularly in war, bodily weight, it has now been clearly shown, is a most important element; and, wherever the superiority in this respect lies, thither will success, other circumstances being equal, almost infallibly tend. An observation of the various collisions of troops on the field of Waterloo, whether of horse or foot, has been found to substantiate this proposition.

Professor Forbes extended his inquiries among his students, English, Scotch, and Irish, to bodily weight, adding examinations of similar, and also of mixed classes of Belgians. The results were as follow:—

Weight in Pounds, including Clothes.

Age.	English.	Scotch.	Irish.	Belgians (not mixed classes).
	lbs.	lbs.	lbs.	lbs.
15	114·5	112	...	102
16	127	125·5	129	117·5
17	133·5	133·5	136	127
18	138	139	141·5	134
19	141	143	145·5	139·5
20	144	146·5	142	143
21	146	142·5	151	145·5
22	147·5	150	153	147
23	149	151	154	148·5
24	150	152	155	149·5
25	151	152·5	155	150

Here, again, the superiority lies with the Irish, the others holding the same relative positions as in the case of stature. The mixed classes of Belgians, in whose case the weight of clothes was deducted, ranked exceedingly low—134 lbs. being about the average. We have it in our power, fortunately, to compare the conclusions of Professor Forbes with those of other inquirers, in as far as the English and Belgians are concerned. The eighty students of Cambridge, weighed (with the clothes) in groups of ten, gave an average, as we are informed by Quetelet, of 151 lbs.—the precise mean, it will be observed, of the Englishmen of twenty-five years of age weighed by Professor Forbes. The Cambridge students, however, were between eighteen and twenty-three years old, and therefore the Cambridge estimate is a little higher than that of Professor Forbes, as it also was in the case of stature. With respect to the weight of the Belgians, as examined by Quetelet, he states that the mean weight of the Cambridge students of eighteen and twenty-three much exceeds that of Belgians of the same age, being nearly the same as that of men of *thirty* in Brabant and the other departments of Flanders.

The superiority of the Irish in point of stature and weight is remarkable. We shall find it borne out by a corresponding superiority in physical power, as shown in the table of Professor Forbes having reference to that characteristic.

Quetelet's conclusions respecting the weight of the human being at various ages, and the general laws regulating his growth in this particular, are nearly as follows:—The mean weight of male children at birth is 3·20 kilogrammes.* The weight of female infants is less, being 2·91 k. A child loses weight for the first three days after birth, and does not make any decided increase until about the seventh day. Ages being equal, man generally weighs more than woman; but at the age of twelve this is not the case. The sexes are then nearly equal in this respect. The period of complete development in man, as respects weight, is the age of forty; woman, again, does not attain her maximum till the age of fifty. According to observations made on the most extensive scale in Belgium, the mean weight of man at twenty-five is 62·93 k.; at the age of forty (the maximum period), it is 63·7 k. The mean weight of woman at twenty-five is 53·2 k.; at fifty (the maximum period), it is 56·16 k.† The maximum weight of the human being is nearly twenty times the sum of his weight at birth. The mean weight of the human being, neither sex nor age being taken into account, is 45·7 k. From the ages of forty and fifty, men and women begin respectively to sustain a decrease of weight, from six to seven kilogrammes being the usual loss before the close of life.

STRENGTH OF MAN.

The strength of the human frame is a subject which has received much more attention than has been paid either to its weight or proportions. It is obviously, indeed, a subject of the utmost moment, whether we view it with reference to the comparative physical powers of different races, or simply as a question interesting to civilised man from its bearing on practical mechanics. Various methods have been proposed for determining accurately the strength resident in the loins and arms of the human frame; and the instrument called the *dynamometer*, invented by Regnier, is that most generally approved of and employed for the purpose. The dynamometer, however, though used by Quetelet, Professor Forbes, and others, in their experiments, is allowed to be far from perfect, and it is only by uncommon care and caution, that results can be obtained from it worthy of being depended on. It is an instrument which cannot well be described in mere words, and all that may be said of it here is, that it is so contrived as to indicate to the experimenter, on a dial-plate, the physical power resident in the loins and arms of the parties subjected to trial.

Observing the extraordinary displays of physical power and energy frequently made by savages, scientific men were long of opinion that civilisation diminished the strength of the human frame. Other circumstances tended to foster this belief. The Negro is possessed of longer arms, or at least forearms, than the Caucasian, holding in this respect, it is worthy of remark, a middle place between the white and the ape, which latter creature has arms of great length. "I measured," says Mr White, "the arms of about fifty Negroes, men, women, and children, born in very different climes, and found the lower arm longer than in Europeans, in proportion to the upper arm and height of the body." The same writer says that whites of 6 feet 4 inches, whom he measured, had shorter arms than Negroes of middle size. Similar sources of physical superiority appeared to voyagers to be possessed by the Pacific Islanders, the Malays, and many other uncultivated races. But more attentive observation has disproved the supposition. The voyager Peron, took with him to the southern hemisphere a dynamometer, with which he experimented on the following number of individuals: twelve natives of Van Diemen's Land, seventeen of New Holland, fifty-six of the island of Timor (a fine race of men), seventeen Frenchmen, and fourteen Englishmen. The following numbers express the mean result in each case, the strength of the arms and loins being respectively put to the test. It is by lifting a weight that the strength of the loins is tested with the dynamometer.

Mean strength.

	Arms. Kilogrammes.	Loins. Myriogrammes.
1. Van Diemen natives, -	50·6	...
2. New Hollanders, - -	50·8	10·2
3. Timorians, - -	58·7	11·6
4. Frenchmen, - - -	69·2	15·2
5. Englishmen, - -	71·4	16·3*

The highest power of arm shown by any of the Van Diemen natives, was 60; by the New Hollanders, 62; while the lowest in the English trials was 63, and the highest 83. In *lumbar* power, or that of the loins, the highest point reached by a New Hollander was 13; the lowest of the English was 12.7, and the highest 21.3.

"These results," says Mr Lawrence, "offer the best answer to the declamations on the degeneracy of man. The attribute of superior strength, so boldly assumed by the eulogists of the savage state, has never been questioned or doubted. Although we have been consoled for this inferiority by an enumeration of the many precious benefits derived from civilisation, it has always been felt as a somewhat degrading disadvantage. Bodily strength is a concomitant of good health, which is produced and supported by a regular supply of wholesome and nutritious food, and by active occupation. The industrious and well-fed middle classes of a civilised community, may be reasonably expected to surpass, in this endowment, the miserable savages, who are never well-fed, and too frequently depressed by absolute want and all other privations." Such is the case, as Peron's experiments show. But indeed the same thing is shown by a hundred historical facts. The Spaniards, on their first visits to the New World, found the natives much weaker than themselves, and this was proved not only by hand to hand struggles, but by the labour of the mines, in which the Indians were far deficient. The backwoodsmen of the States have always shown themselves stronger, in single combats, than the Indians. The Russians of Europe, also, are said by Pallas to excel the Mongol tribes of the empire, to a remarkable extent, in physical power.

Proper and extended comparisons are yet to be made of the relative physical power of the various Caucasian nations. The following table of Professor Forbes gives

* A kilogramme is as nearly as possible 2 1-5th lbs. English.

† The mean weight, therefore, of man in Belgium, at the maximum period, is little more than 140 lbs. English. This is much below the average of man in Britain.

* Peron—Corrected Edition of his Voyages. (The myriogramme is nearly 23 lbs. English.)

us at least a glimpse at the comparative strengths of English, Scotch, Irish, and Belgians :—

Lumbar strength in pounds.

Age.	English.	Scotch.	Irish.	Belgians.
15	...	280	...	204
16	336	314	...	236
17	352	340	369	260
18	364	360	389	280
19	378	378	404	296
20	385	392	416	310
21	392	402	423	322
22	397	410	427	330
23	401	417	430	335
24	402	421	431	337
25	403	423	432	339

The same relations are here preserved as in the previous tables, and as, with respect to weight and height at least, there could be no mistake, the probability that the last table is correct is much strengthened by the conformity in question. The difference between the Irish and Belgians is immense, the former exceeding the latter in strength by nearly one-fourth; while between the English and Belgians there is also a great difference, amounting to 62 pounds. The English, in Peron's table, showed a lumbar strength equal to about 376 lbs., a point considerably below that of the English in Professor Forbes's table. But we might expect such a difference between students and sailors, or stout colonists, which latter classes were those examined by Peron. Between the Scotch and Irish the difference is small comparatively. It is much to be wished that the example of the Edinburgh professor were extensively followed, both abroad and at home, so as to give us satisfactory views of the relative physical powers of the different European nations. Such questions, as already hinted, will be found to bear more directly on the prosperity of nations than has hitherto been commonly imagined.*

Regnier, the inventor of the common dynamometer, was led to the conclusion, after many experiments, that, between the ages of twenty-five and thirty, man is at the maximum of his strength, and that he is then able, by pressing strongly with both hands, to make an effort equal to 50 kilogrammes, and to raise a weight of 13 myriogrammes. Man preserves (says the same observer) much of his physical power nearly till the age of fifty, when it diminishes progressively. The experiments of another Frenchman, M. Ransonnet, made upon 345 of his countrymen, sailors of the port of Havre, give results somewhat different from those of Regnier. Ransonnet found the mean manual power of these men to equal 46·3 kilogrammes ; and the lumbar power, or that of the loins, to amount to 14·2 myriogrammes. There is every reason to believe, however, that the particular mode of using the instrument, employed by each experimenter, is the cause of such differences in its results. Quetelet's observations led to the following conclusions :—

Lumbar Power of Men and Women.

Age.	Men. Myriogrammes.	Women. Myriogrammes.
9,	4·0	3·0
15,	8·8	5.3
20,	13·8	6.8
25,	15·5	7·7
30,	15·4	...
50,	10·1	5·9

The highest point which the dynamometer here gave, for the power of the loins in Belgian men, was 15·5, twenty-five being the age when the power reached this maximum point. The conclusion agrees very closely with those made by Peron on the French sailors of his party, who exhibited a lumbar power equivalent to 15·2 myriogrammes, falling below that of the English, which was 16·3. Other observations, however, would lead us to suppose that the difference is more in favour of the British, when compared with the Belgians, than this calculation would indicate; and this would probably have appeared, had Britons been tested under Quetelet's own eye, and by his directions.

The difference in lumbar strength between men and women is remarkable, as shown in Quetelet's table. At the age of twenty-five, when both attain the maximum of lumbar strength, the woman is deficient by more than one-half. "The difference," says Quetelet, "is commonly less in early youth than at the period of complete development, the ratio being at first as 3 to 2, and becoming afterwards as 9 to 5. The power of the right hand, when tried separately from that of the left, exceeds that of the latter by nearly a sixth. If the results which I have attained be compared with those of MM. Regnier and Ransonnet, differences of a remarkable kind will be observed, which I ascribe to the manner in which the hands were laid upon the instrument, and to the distance left between them. According to the researches, however, of the gentlemen mentioned, the mean strength of man is estimated at about 46·3 and 50 kilogrammes, a weight not equalling that of man himself. Hence a man should not be capable of supporting himself with his hands. Now, experience tells us the very opposite of this. Among the sailors examined by Ransonnet, there would not probably have been found a single man who could not sustain himself for some instants at the end of a rope. Peron, who estimates the manual force at 69·2 kilogrammes, approaches nearer to the truth, but my own experiments carry the estimate considerably higher."

These conflicting results cannot but lead us to look with suspicion on the dynamometer, when in the hands of *different* experimenters. But the conclusions of single experimenters, who have compared a variety of individuals, are still to be held of value, since they would cause the different subjects of experiment to operate on the instrument in the same way. The conclusions of Peron respecting civilised and uncivilised men, as well as Englishmen and Frenchmen, are by no means to be deemed unworthy of credit, because Quetelet arrived at different general conclusions; and the same may be said of the observations of Quetelet upon the comparative strength of man and woman at different ages. To the observations of Professor Forbes the same remark applies, and we believe, with reference to them, that the conclusions which they indicate will hold extensively good. The Belgians partake largely of the Celtic blood, and the Celtic race will probably be found inferior to the Germanic, in almost all cases, in height, weight, and strength of frame. The superiority of the Irish, it may be thought, does not countenance this view of things, as they are in the main a Celtic people. But it is the English portion of the Irish population, chiefly, who are in circumstances to quit their country in quest of academical education, and such was, in all likelihood, the character of the majority of those who became the subjects of experiment to Professor Forbes. The peasantry, in some of the more retired districts of Ireland, present characters very different from those of the parties settled within what was called the English "pale." They are pure Celts, unquestionably, with short, spare, wiry frames, and features strikingly Celtic. Not to these, but to the English portion of the nation, must the conclusions of Professor Forbes be held chiefly to apply; and the people of the Scottish Lowlands, who encircle and attend the Edinburgh University, are, in like manner, a Germanised race. It is in this light that English, Scotch, and Irish, are to be ranked together, and collectively contrasted, as being all of them branches of a Germanised population, with the continental Celts. In height,

* We have been informed that the mere physical power of the different companies of men to whom the Duke of Wellington was opposed in his campaigns, was always with him an object of serious consideration.

weight, and stature, the superiority, we repeat, seems to lie with the former, and their national career may have been more affected by the circumstance than has hitherto been dreamed of. Future inquiries are likely to give to such physical characteristics a degree of weight not ascribed to them in times past.

Leaving the question of comparative degrees of strength, whether in varieties or sub-varieties of mankind, a word may be said respecting the extraordinary physical powers which *individual* men, of various nations, have occasionally evinced. We learn from history, that Milo, a Greek, could fell an ox with his fist, and afterwards carry it home on his shoulders. Firmus, a man who lived in later times, being born in Seleucia about the reign of the Emperor Aurelian, could suffer iron to be forged on an anvil placed on his breast, his body being then in the position of an arch, with only the two extremities resting on supports. He exhibited other feats of muscular strength, nearly all of which were successfully imitated, during the past century, by a German named Van Eckeburg. This man sat down on an inclined board, with his feet stretched out against a fixed support, and two strong horses were unable to move him from his position. In imitation of Firmus, he lay down, with his body in the form of an arch, and allowed a stone, one foot and a half long and one foot broad, to be broken on his abdomen with a sledge hammer. He also stood on an elevated platform, and by means of a rope round his waist, sustained the weight of a large cannon, a burden for several horses. A flat piece of iron was likewise twisted by him into the form of a screw.

Dr Desaguliers, a scientific gentleman who witnessed the German's feats, showed, however, that skill was more concerned in the matter than mere strength. With the aid of some friends, the doctor actually performed many of the same feats, on the very night on which he witnessed them. The simple sustaining of the stone, it seems, was the chief difficulty in the most striking of the experiments, as the breaking of it caused little additional annoyance; and, in place of increasing, the arched position of the body greatly diminished the shock of the blows. In the case of many of the other feats, in like manner, a skilful application of ordinary physical powers was found competent to their accomplishment. There appeared, nevertheless, about the same time with the German, an Englishman, named Topham, who performed equally wonderful feats by sheer strength, unaided by skill. He out-pulled a strong horse by main force, though in attempting to pull against two, he ultimately got himself hurt, being totally ignorant of the contrivances which his German predecessor used in aidance of his muscular powers. Topham rolled up pewter plates with ease, and unrolled them; he struck an iron poker, three inches in circumference and three feet long, against his bare right arm, till he bent it to a right angle; he placed a similar poker against the back of his neck, and, with a hand on each end, twisted it round, till the points met in front; after which he pulled it nearly straight again, his arms acting in a most unfavourable condition while he did so; and, finally, among other feats, he lifted with his teeth, and held out for a time, a strong table six feet long, with half a hundredweight hanging at the farther extremity.

We have accounts of men performing more wonderful feats than these of Topham, but they are either ill authenticated, or seem to have resulted as much from skill as strength, as in the case of the German. Topham appears, on the whole, to have been gifted with physical powers as remarkable as any that we can believe any human being ever to have naturally possessed, judging from the details on such matters given in merely secular history.

MENTAL CHARACTER.

It is only a recapitulation of much which has been *stated in the earlier sections of this* treatise, that great *varieties of mental character* are exhibited by the *the races of mankind.* The black intertropical nations generally, are decidedly the lowest in t lectual scale. They are generally characterised indolence, as well as by gross barbarism an stition. The idea of a social community has n a small advance amongst them, though more some tribes than others. The lowest of the cla be found in Australia and some of the island Pacific. Yet there is scarcely any tribe of h mean, but they possess certain traits of mind ca to produce respect, being in some instances sur ingenious in fabricating particular articles, or in nagement of canoes and the use of warlike imp

The red races of North America are a cons superior race to the Negroes. Their associa war and other purposes are upon a more con scale; they show many remarkable traits of in and in many tribes we find kindness and cour proaching to our ideas of the chivalric charact

The Mongolians, and the Indian branch of t casians, must be considered next in the scal have formed great states, and made advances in and in science; but a stationary character appe impressed on them all, and ages pass witho manifesting the slightest moral or political i ment. The Malayan variety exhibits a somew rior character to the Mongolians, but not so as to call for special notice.

The Caucasian variety, as a whole, stands above all the rest. It is characterised by sagacity and sentiment, and, above all, by a pro character which other races have only shown i limited degree. The social arrangements fo some branches of this race, are the most calcu ensure the general happiness which have ev known. Their industry and perseverance, aide lights which they have deduced from science, to the production of an amount of wealth bey dreams of Orientals. Their benevolence has not only to found institutions calculated to suc poor and afflicted in their own country, but themselves for the benefit of other nations i region of the globe. Wherever this race sets it makes itself master—a result directly flowing superior energy, skill, and perseverance. Amo branches of the Caucasian variety, consideral rences prevail. The Indian branch approache Mongolian variety, and it is in the Pelasgian b ancient, and the Teutonic or German in moder that we find the utmost development of the fine ties of the species.

PERMANENCY OF TYPES.

This subject has been already touched upon calls for some special consideration. We fi interesting light thrown upon it in a work "The Physiological Characters of the Races kind considered in their Relations to History," W. F. Edwards.

This writer cites the Jews as an example o who, for nearly two thousand years, have been throughout a variety of climes, yet have ever preserved their original features. In Leon Vinci's picture of the Last Supper, painted thr dred years ago, the figures are represented wi tenances exactly resembling those of the Jew present day. That the present well-known typ people has undergone no change at any time, is by the paintings found by Belzoni in the tom Egyptian king, probably not less than three t years old. These paintings represent four races in procession—1. The natives, of a dark tint; 2. Negroes, with black skins, thick lips, an hair; 3. Persians; 4. Israelites, distinguished complexion and physiognomy. The paintin exhibited in London, where Dr Edwards part examined them: he says, "I had seen, on the p day, Jews in the streets of London; I though now saw their portraits."

Dr Edwards shows that there is much error

...; and the British, though they have exterminated the untameable savages of Van Diemen's Land, to contemplate encouraging into their service the docile races of New Zealand. Reason is shown by Edwards for concluding that, in several European countries which have passed through the hands of foreign masters, the bulk of the people are still the same as in very remote times. Rome, and the Papal States, yet show a people of exactly the same type of face with the ancient Romans, as represented in busts and upon bas-reliefs. A people of one type, supposed to be that of the ancient Gauls, were distinctly traced by Edwards in eastern France and in northern Italy. He also adduces reasons for believing that the Britons still form a large portion of the present population of England. History itself, rightly read, confirms those propositions. The Franks, who acquired the country in Gaul in the fifth century, were rather a navy than a migratory nation. The Lombards, who overran and seized the northern half of Italy, are stated to have only been about 100,000 in number. The immigration of the Saxons into England, seems to have been upon a greater scale; but the Normans, led by the Conqueror, were only 60,000 soldiers.

The stability of the people on their original ground, and the permanency of their original character, are shown in a striking manner by the description which Tacitus gives of the Gauls, Britons, and Germans. Gaul he speaks of as "gay, volatile, and precipitate to rush to action, but without the power of resisting adversity and the tug of strife; and this is the character of the Celtic portion of the French people even to the present day. He represents the Britons as brave, considerate, and acute, possessed of intellectual talent, and says that he prefers their aptitude to the fickler manners of the Gauls. The same mental traits characterise the English of the nineteenth century, and they and the French may still be contrasted in similar terms. He describes the Germans, during the state of their civilisation, as a bold, free, self-denying, and virtuous people, possessed of a fierce set of characters; and the same features distinguish them still." It is scarcely necessary to remark, that the blue eyes and fair hair which the Roman writer attributes to the Germans, are still widely-existing features of their external physiognomy.

The perseverance of national types is supported by instances favouring the same conclusion with respect to individual families. It has been repeatedly observed, in galleries of family portraits, that a particular style of face, or some shape of feature, is handed down from one generation to another, or, passing perhaps over one or two generations, revives in a third. A certain thickness in the under lip has been thus hereditary in the royal family of Austria for several centuries. The face of the British royal family has presented nothing but minor changes since the Elizabethan age, if not from earlier generations. Mr Willshire, in his work entitled "Visits to Remarkable Places," gives a portrait of a school-boy who was

trait of Sir William Wallace. He had previously, as might be supposed, no inclination to attach any credit to that portrait, but he could not help being greatly surprised when, upon inquiry, he learned that the gentleman who had just passed was General Dunlop of Dunlop, whose mother he well knew to have been the daughter of Sir Thomas Wallace of Craigie, the last lineal descendant of a branch of the family of the Scottish hero. It may be added, that the rencontre took place sixty miles from the seat of General Dunlop. As Wallace is now known to have visited France, it is not impossible that his visage may have been painted; or, supposing the portrait not his, it is likely to be that of some early member of the Wallace-Craigie family, in which case the anecdote would be not much less valuable as a proof of the long descent of a family face.

EFFECTS OF LOCAL CIRCUMSTANCES IN PRODUCING CHANGES.

On the other hand, there are proofs of considerable alterations having been produced in the external features of races by peculiar local circumstances. The descendants of the English settlers in the American states display a considerable variation, in general form and aspect, from the parent nation. The children of European settlers in New South Wales, are tall, thin, and weaker than their progenitors. In the West Indies, some distinct new peculiarities of structure have been observed in the descendants of English settlers. Their cheek-bones are higher, and their eyes deeper set in the head, than those of the English nation generally. In these respects, they approximate to the form of the aboriginal races of the American continent and islands; and it has been pointed out that such a form is useful in protecting the eye-sight from the glare of the tropical sun. The Creoles have also cooler skins, and are keener of sight, and more supple in the joints, than the English. It has been remarked of the descendants of Africans in the United States, that, after three or four generations, their features lose much of the native African cast, and approximate to those of the white people, the mouth becoming smaller, the eyes lively and sparkling, the nose higher in the ridge, and the hair considerably longer and less crisp.

Analogous circumstances are observed amongst the lower animals. For example, the woolly sheep, brought into a tropical climate, loses its fleece, and retains only a thin coat of hair. The hogs of Cuba, all of which are descended from an European stock, are twice as large as modern European hogs. The horses which run wild in Paraguay, though all descended from variegated European races, are now of one peculiar colour, which we cannot doubt is the effect of some peculiar local circumstances.

Dr Prichard says—"On considering these and analogous phenomena, we can hardly avoid concluding that the variations of animals proceed according to certain laws, by which the structure is adapted to the necessity of local circumstances." If such be the case, it must be held as a circumstance favourable to the supposition that all the races are sprung from one stock. The variations might, in that case, be regarded

as altogether produced by local circumstances operating during a long course of time.

It is certain that the Negro skin, and, indeed, the whole Negro constitution, are better adapted for a tropical climate than those of the white man. It is also true that intertropical countries all round the globe are inhabited by black races, excepting only those in tropical America which are so much elevated as to enjoy a temperate climate. We here see much reason for believing that the Negro is a being adapted, in a special manner, to live in a high temperature; and this seems the more likely, when we consider that blacks, on settling in northern latitudes, become the victims of several severe ailments, which seem to forbid that they should ever multiply in such countries. Blacks, indeed, and whites, appear to be respectively adapted to tropical and to temperate latitudes; and their attempts to interchange their proper situations are not in general attended with good effects, although, as we have seen, there is reason to believe that nature makes an effort, to a certain extent, to accommodate them to the changed circumstances.

CONCLUSION.

From all that has been written or learned on the subject of man's physical and social history, it appears evident that the constitutional character of the human being admits of a very high degree of culture and improvement. Nature ushers him into existence more weak and helpless than any of the lower animals, and, left uncultivated, he grows up an ignorant savage. In the most debased condition, however, in which he can be found, he possesses the rude elements of intelligence, and aspires to a destiny altogether beyond the reach of the creatures over which he has acquired dominion. His pre-eminence in the scale of being may be proximately traced to the structure of his brain, or organ of thought, which greatly exceeds in relative magnitude that of any of the lower animals; likewise to the capacity for speech; and to his upright posture. His superior mental development, when operated upon by a combination of happy circumstances, usually classed under the name of education, enables him to trace effects to causes, to convey an account of his experience to his fellows, and, above all, to put not only this experience but his numerous and varied thoughts, on record for the benefit of future generations. In this manner, the savage, which man originally is, is gradually improved. Each new generation enjoys the benefit of an accumulated experience; and at last, as cultivation advances, man is found to be a highly intellectual being, with a frame more elegant and powerful than he possessed when his race was in a state of heathen darkness.

Indian Savage.

Under an all-wise Providence, man has assuredly been placed on this earthly scene to perform a part immeasurably more dignified than that assigned to the lower orders of animals, each of whose generations is in no respect advanced, and cannot possibly advance, beyond the precise and humble station which was first occupied by its race. "In this point of view," to use the language of Lawrence, "man stands alone: his faculties, and what he has effected by them, place him at a wide interval from all other animals—at an interval which no animal hitherto known to us can fill up. The man-like monkey, the almost reasonable elephant, the docile dog, the sagacious beaver, the industrious bee, cannot be compared to him. In none of these instances is there any progress either in the individuals or the species."

Elevated, however, as is the meanest among human beings above the higher of the animal tribes, it is evident that for the proper performance of his part he *must* employ means for advancement, else he rests in a condition of ignorance and barbarism most deplorable to contemplate. Placed in a large and beautiful world, abounding with animal and vegetable existences at his command, and accountable for his conduct, it behoves him to pursue such a course of activity as will enable him to enjoy the full benefits of his situation. By pursuing that line of policy which leads to social melioration, he rises step by step to a high degree of civilisation, and bequeaths to posterity almost imperishable monuments of his greatness. Attaining this enviable height, should he pursue or be the victim of a contrary line of policy, he sinks in the same ratio, and perhaps with greater speed, down to the original and humble level from which he had formerly arisen.

To be assured that these are not merely conjectural speculations, we have only to direct our attention to history, wherein examples are offered of the gradual rise, the eminence, the decline, and the ultimate extinction, of civilisation. Again, like the growth of a new order of plants on the soil of an exterminated forest, we find on the spot once consecrated by deeds of human greatness, a different branch of the family of mankind, pursuing by toilsome steps a similar rise from barbarism, and asserting, in their turn, the exalted capacity for improvement common to all varieties of our race.

Although it is established both by scriptural record and geological discoveries, that man was placed on earth last in the series of animal existences, his race possesses a sufficient antiquity to embrace various instances of the rise and decay of nations at a period so remote as to be beyond the reach of ordinary record, and only known by the wrecks of man's inventive genius. Thus, in the east, are found remains of architecture and sculpture, of the origin or meaning of which the oldest known nations were altogether ignorant, and which are a puzzle to modern archæologists.* Thus, also, throughout North and Central America, there are found vast monuments of antiquity and objects of art, of a date long anterior to that of the earliest recorded nations, and which these nations looked upon with awe and wonder. The valley of the Mississippi, in particular, abounds in an immense quantity of artificial mounds of various shapes and sizes, and forts of different kinds, the origin of which is altogether unknown, but which are doubtless the remains of an extinct civilised race. This country, as is well known, was found, in the earlier periods of American discovery, in the possession of those red races usually called Indians, who are now retiring before the advance of the whites. These red races manifest no symptom of possessing, or of ever having possessed, either the power or the inclination to erect such works: they disclaim having erected them, and in their traditions speak of them as the productions of a people who were their predecessors in the country, and have long been extinct.

Enlightened Englishman.

To close this imperfect sketch of man's physical history, we have only to add, that from all the existing remains of antiquity, both in the eastern and western hemisphere, and from all written history, it conclusively appears that mankind, taken in the mass, have in no respect degenerated in physical structure, but that individually they are as tall, bulky, and powerful, as they were in the earliest periods of their progress, while, as respects mental qualifications, they now, in all enlightened societies, occupy a station in the scale of being which it is reasonable to conclude was never before enjoyed.

* See article, ARABIA PETRÆA.

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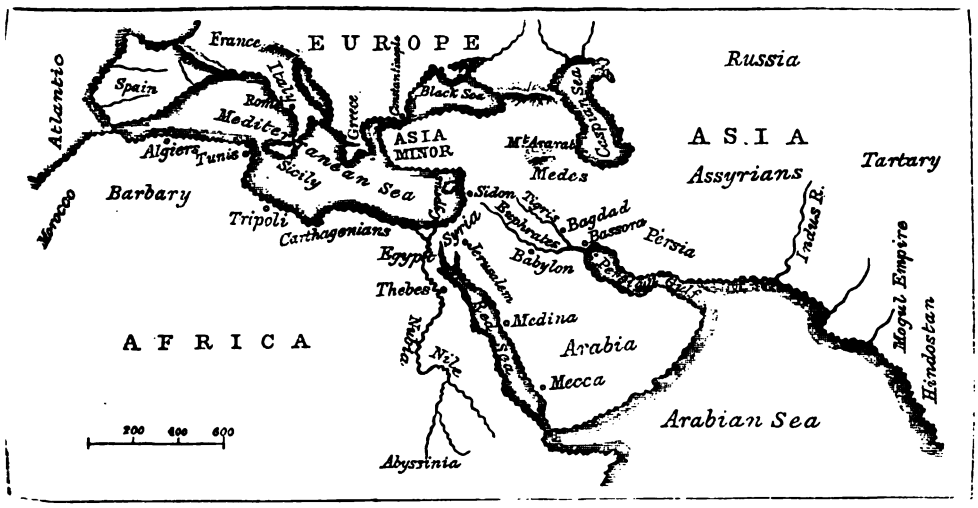
ANCIENT HISTORY—EGYPT.



Great Pyramid of Cheops, in its present condition.

ANCIENT HISTORY usually commences with an account of the creation of the world as narrated by Moses—the subsequent dispersal of mankind over the earth—the flood of Noah—and the re-settling of the human race in Asia, Africa, and Europe, after that disastrous event. But to the annals of these early times it is unnecessary here to advert. We take up the history of antiquity at a period less remote, or from 2000 to 1000 years before Christ, when Egypt and the adjacent territories were illumined with the light of science and the arts.

It is important, at the outset of our sketch, to call attention to the fact that the whole of ancient history refers to a limited cluster of countries, on or near the shores of the Mediterranean. By a glance at the accompanying map, it will be perceived that Egypt, also the country of the Carthagenians, in Africa; Syria and Palestine (including the country of the Phœnicians), Arabia, the country of the Chaldeans, Babylonians, Medes, Persians, and Assyrians, in Asia; and Greece, Italy, and other countries of the Gentiles, in Europe—all lie upon, or at no great distance from, the Mediterranean. To the countries, therefore, adjacent to this inland branch of the Atlantic Ocean, the knowledge of the ancients was chiefly confined, or at the utmost did not extend in an easterly direction beyond Hindostan, or the country of the Moguls. In consequence of this limited knowledge of geography, as well as the natural but very erroneous notion that the world was only a great stretched-out plain, the Mediterranean sea received the name it now bears, which signifies the *sea in the middle of the earth*—the central ocean round which the human race had been planted.

The world as thus known to the ancients, may be described, in general terms, as a region extending from the 10th to the 50th degree of north latitude, and from the 1st degree west to the 70th degree of east longitude, and comprehending only limited districts of Africa, Asia, and Europe—the whole composing a most insignificant portion of the globe. As far, however, as is learned from the records of sacred and profane history, it was in some spot within this anciently settled territory that science, learning, and the arts, originated, and spread over the earth; and as thus forming the cradle of modern civilisation, the region is invested with an interest due to its former greatness. Yet the political

history of the empires and kingdoms which anciently flourished in this once favoured territory, is on the whole unworthy of lengthened study. Time is only thrown away in the vain endeavour to unravel the vague and offensive details of kingdom warring against kingdom, tribe against tribe, and each in its turn assailing and overpowering its more feeble neighbour. Thus, the Chaldeans in the south-east of Arabia were overpowered by their neighbours the Babylonians, the Babylonians by the Assyrians, the Assyrians and Egyptians by the Persians, the Persians by the Greeks, and the Greeks by the Romans, while these latter, who had swallowed up the whole of their predecessors, were in their turn overpowered by barbaric hordes from the north of Europe, or by nearly equally savage tribes from the east. In this manner the bulk of ancient history is little else than a record of oppressions, conquests, and crimes, and in the main exhibiting few facts which are of value either for amusement or instruction. Ancient history is indeed only interesting where it throws light upon the origin and progress of our religion, or upon the primeval state of learning, philosophy, and the arts; as a chronicle of mere wars and conquests, it is utterly valueless.

Whatever may have been the extent of knowledge in letters, science, or the polite arts, gained by the ancient Chaldeans, Babylonians, or other Asiatics, it is generally understood that it fell short of what existed about the same period (2300 to 1000 years before Christ) among the inhabitants of Egypt, from which certain kinds of learning spread to Greece, from Greece to Rome, and from Rome over western Europe, including the British islands, and all other modern countries. By a clear line of descent, therefore, we trace the rudiments of modern civilisation to Egypt, a land which is deserving of our notice, not only on this account, but on that of its magnificent remains of ancient art, which till the present day astonish the mind of the traveller.

As thus interesting from their connection with modern civilisation, or with our religion, we offer sketches of the history of Egypt, Palestine, Greece, and Rome, with some account of these countries, confining ourselves in the present instance to Egypt.

EGYPT—ITS HISTORY.

In point of local situation, Egypt possesses various advantages.* It lies in the north-east corner of Africa, in a salubrious part of that vast continent, presenting its northern base to the Mediterranean Sea, and bounded on the east by the Red Sea, which separates it from Asia. Through the whole land from north to south, a length of 900 miles, flows the Nile, a fine large stream rising in the inland kingdom of Abyssinia, and, from certain periodic floods, of great use in irrigating and fertilising the country. A large portion of Egypt consists of an alluvial plain, similar to our fertile meadow grounds, formed by the deposits of the river, and bounded by ranges of mountains on either side. The greatest breadth of the land is 150 miles, but generally it is much less, the mountain ranges on either side often being not more than five to ten miles from the river. Anciently this territory was divided into three principal parts—Upper Egypt, or Thebais (from Thebes, its capital city), which was in the inner or southern part; Middle Egypt; and Lower Egypt, which included what was called the Delta, a low district of land on the shores of the Mediterranean, formed by the mouths of the Nile into the shape of the Greek letter Δ, or delta.

The history of the people who at one time inhabited this remarkable country is carried by their annalists to the very earliest ages; indeed, to a period far more remote than that ascribed by Moses to the creation of the world. When divested of fable, it appears that Egyptian monarchy was established by Menes, or Mizraim, in the year of the world 1816, and that it continued till the year 3479, when it was destroyed by Cambyses, *King of Persia*. To Misraim succeeded a line of sovereigns of great power and fame, every one of whom seems to have delighted in edifices of extraordinary magnitude and splendour. Extensive and beautiful cities, obelisks, pyramids, temples, were erected without regard to the resources of the people; and as their remains exist this day extant, and have been described by travellers, we are impressed with the most significant tokens of taste and knowledge of the ancient Egyptians. Also each of the Egyptian monarchs was distinguished by his own peculiar name—as Moeris, Rameses, Sesostris, Pheron, Cheops, &c.—those who reigned for a considerable period, in Lower Egypt especially, were designated Pharaoh, a title commonly used in Scripture to express the Egyptian rulers at the time. The Pharaoh who was noted for his oppression of the Israelites, who flourished 1577 years before the Christian era, and properly called Rameses Miamum, while his successor Pharaoh under whose reign the Children of Israel departed out of Egypt, and who was drowned in the Red Sea, was entitled Amenophis.

The country thus governed, by a course of circumstances unknown to the present age, and which will likely ever remain hid from our understanding, was among the first on the face of the earth which exhibited any demonstrations of refinement in taste. The kingdom (says Rollin) bestowed its noblest labour on the finest arts on the improving of mankind; and Egypt was so sensible of this, that its most illustrious men, as Homer, Pythagoras, Plato, even its great legislators, Lycurgus and Solon, with many more—travelled into Egypt to complete their studies, and draw from that fountain whatever was most rare and valuable in every kind of learning. God himself has given this land a glorious testimony, when, praising Moses, he says of him, that 'he was learned in all the wisdom of the Egyptians.'" Such was the desire for encouraging the pursuits of scientific pursuits, that discoverers of any useful invention received rewards suitable to their skill and labour. They studied natural history, geometry, and astronomy, and, what is worthy of remark, they were so far masters of the latter science as to be able to fix the period required for the earth's annual revolution, and fixed the year at 365 days 6 hours—a period which remained unaltered till the very recent change of style. They likewise studied and improved the science of physic, in which they attained a certain proficiency. The persevering ingenuity and industry of the Egyptians are attested by the remains of their great skill of art, which could not well be surpassed in modern times; and although their working classes were obliged to engage in the occupations of their fathers, as in others, as is still the custom in India, society was thereby be hampered, but the practice of handicraft would be certainly improved. The Egyptians were also among the first people who were acquainted with the processes of communicating information by means of writing, or engraving on stone and metal; and consequently, the first who formed books and established libraries. These repositories of learning they guarded with scrupulous care, and the titles they bore must have inspired a desire to enter them. They were called "Office for the Diseases of the Soul," and that justly, because the soul was there cured of ignorance, which, it will be allowed, is the source of many more maladies of our mental faculties. As these repositories of the learning of the ancient Egyptians were destroyed, and are only known from the records of historians, the works of their sages and poets cannot now be shown; and it is by little else than the inscriptions on stones, found amidst the ruins of pyramids and temples, that we are so much as aware of the nature of the characters employed in their writing. These characters were exceedingly curious, consisting chiefly of representations of animate and inanimate objects, each of which stood for some particular idea. The use of emblematic figures seems to have been, as it is still common among uncultivated races of men, be the first approach towards literature; but the use

* *Egypt is called Mazr by the natives.*

alphabet, by which words are formed by combinations of different characters, was in early times confined entirely to the Egyptians, from whom the invention was communicated across the Mediterranean to Greece, by a person of celebrity called Cadmus, and from thence spread into other European nations. It is also understood that the Israelites, and other Asiatics, received their knowledge of letters from the learned inhabitants of Egypt. The use of rude emblematic figures was not abandoned by the Egyptians as letters became known, but continued chiefly to denote matters of a mysterious or religious tendency. These figures have received the name of *hieroglyphics*, and are of various kinds, more or less significant of the thing or idea intended to be expressed. For thousands of years the world remained in total ignorance of the manner of deciphering these hieroglyphics, for the Egyptians left no clue whereby to make the discovery; and it was only in 1814 that, by the researches of some Frenchmen, a key to certain kinds was made known. It was found that, although the figures often signify the thing which they represent—for instance, the figure of a lion signifying that animal—yet that in many instances it does no such thing, but stands simply for the letter L, which is the initial letter in the word *lion*. The discovery of this mode of deciphering the Egyptian hieroglyphics, by reckoning only the initial letters in the names of the things represented, lays open a wide field for the investigation of learned and inquisitive travellers in the ancient territory of the Pharaohs.

The comparative intelligence of the Egyptians did not rescue them from the most debasing superstitions in their religious faith. They had a great number of ideal gods; among others, Osiris and Isis, which are thought to have been the sun and the moon. They also worshipped a number of beasts, as the ox or bull (under the name of Apis), the dog, the wolf, the hawk, the crocodile, the ibis or stork, the cat, &c.; and such was the reverence which they paid to these animals, that, in extreme famine, they chose to eat one another rather than feed on their imagined deities. The Egyptians had a belief, inculcated by their priests, that the souls of men, after death, passed into the bodies of clean or unclean animals, according to the deeds done in the body, and that at a distant period of time they returned to the body to which they originally belonged. A doctrine so extravagant led their kings to build enormous architectural edifices for the reception of their bodies, in order that they might, as they thought, repose in safety till they were again to be endowed with a living soul. In this fantastic notion we find a satisfactory solution of the mysterious practice of inhuming mummies in those huge pyramids, now reckoned among the greatest wonders in the world.

In the days of Egypt's ancient glory, it was dignified with two greater and many lesser cities. The two principal were Thebes, the capital of Upper Egypt, and a city of extraordinary extent and splendour; and Memphis, the capital of the middle district of the country. Memphis was built on the west side of the Nile, and has been succeeded by the comparatively modern city of Cairo, on the east bank of the river. On the site of Thebes and Memphis, and in their neighbourhood, are now found the greatest quantity of the ruins of ancient temples and other magnificent erections. In the present day Thebes receives the name of Said.

Like all other distinguished nations of antiquity, Egypt, after a lengthened period of extensive civil power, military glory, and dignified learning, suffered a series of reverses of fortune, and finally sank into a state of utter poverty and barbaric ignorance. The proximate causes of this disastrous event were the political distractions of the country, and the rise of a greater power in the vicinity—that of Nebuchadnezzar, king of Babylon. But in this, as in every other instance of national ruin in ancient times, the principal causes of the disaster were the ill-balanced condition of society, and the general ignorance of the people; the nation did not possess the elements of stability, and became an easy prey to a more powerful and savage neighbour. The country was overrun by Nebuchadnezzar and his hosts, 569 years before Christ, when an immense quantity of its moveable wealth was carried off. About forty-four years afterwards, Egypt was again intruded upon by force of arms, and fell a prey to the conquering hordes of Persia under Cyrus, when many of its edifices were destroyed. It now became a distant colony of Persia, which maintained an authority over it for more than 200 years, at the end of which it was seized by Alexander the Great, a monarch of Greece, who shortly afterwards conquered the whole of Persia. Besides settling the government of the country, Alexander improved it in various ways—among the rest of his enterprises, building the city of Alexandria, which he called after his own name; and as it was placed on the seacoast, at one of the mouths of the Nile, it speedily rose to be one of the largest and most opulent sea-port towns in the world. Upon the division of the Persian empire some time later, Egypt fell to Ptolemy Lagus, one of Alexander's generals, who was succeeded by a race of princes distinguished by the name of Ptolemy, in addition to their other appellations; and hence the Ptolemies of Egypt who are spoken of in ancient history. The last royal descendant of this noble Grecian line was Cleopatra, a princess of great beauty and accomplishments; and at her decease, which she accomplished by suicide, the land of Egypt became a province of Rome, some of whose emperors endeavoured to revive in it a love of letters, and enriched it by various improvements. Subsequently, Egypt fell into a state of ruinous distraction, consequent on the troubles and decline of the Roman government, and was at last completely subdued by the Saracens, who introduced the religion of Mahomed, destroyed the libraries, and, as far as possible, the splendid works of art; so that, under their sway, every species of barbaric rudeness was made to supersede the ancient refined habits of the people. Since that dismal epoch, Egypt has, century after century, sunk deeper and deeper into a state of perfect neglect and ruin. In recent times it has been under the immediate rule of Mehemet Ali, nominally a pacha of the Sultan of Constantinople, and by whom, with considerable suffering to the poor inhabitants, certain improvements have been effected.

DESCRIPTION OF THE COUNTRY.

As already mentioned, Egypt consists of the long flat valley of the Nile, from Abyssinia on the south, to the shore of the Mediterranean Sea, and nominally consists of three divisions, the Delta or lower region, Middle, and Upper Egypt. It is said to contain 200,000 square miles, but only about 16,000 of these are susceptible of cultivation. In ancient times, the country was more generally fertile than in the present day, owing to the encroachment of the sands of the adjacent deserts, and the long period of desolation and mismanagement in which it has existed. Still, owing to the inundations, the lands are more than usually productive, and yield crops of wheat, barley, rice, millet, maize, flax, beans, cotton, tobacco, the sugar-cane, and other useful vegetables. Of fruits, the citron, lemon, pomegranate, apricot, banana or plantain, and the palm-date, flourish luxuriantly. The palm is cultivated to a large extent in the inundated and irrigated lands, and groves of it, yielding a delightful shade, are to be seen, consisting of several thousand trees. Another celebrated production of Egypt is the lotus, a species of water-lily, of great beauty, exhibiting broad round leaves, amid which the flowers, in the form of cups, of bright white and azure, expand on the surface of the waters. The roots of vegetables were used as food by the ancient Egyptians. There is also the papyrus, not less celebrated than the lotus, and which furnished a material used as paper, before the invention of that article; it is, like the lotus, an aquatic plant, growing to the height of eight or ten feet amid the swamps of the Nile. The filaments of the plant being separated and cemented together in pieces, formed sheets whereon writing was executed. (See article PAPER-MAKING.)

THE NILE.

The most remarkable natural object in Egypt is the Nile, which periodically overflows its low banks, and inundates the greater part of the country. The Nile is formed by the union of two streams in the upper country, the Bahr-el-Abiad (white river), and the Bahr-el-Azrek (blue river), in lat. 15° 40′ north. The former, rising in Abyssinia, to the south-west of lake Dembea, comes from the south-east, and was considered by Bruce as the Nile. The latter, however, which comes from the south-west, and is supposed to rise in the Mountains of the Moon, in the centre of Africa, brings down the greatest mass of water, and is considered as the true Nile. In lat. 17° 40′ it receives the Tacazze from the east; enters Egypt in 24°, following nearly a northern course; and below Cairo (30° 15′ north) divides into the two main arms, as we have already mentioned. There were anciently reckoned seven principal mouths, by which its waters were poured into the Mediterranean; only those of Damietta and Rosetta are at present navigable; the others have been choked up. The distance from the confluence of its two head branches to the sea, is about 1500 miles; from its highest sources probably not far from 2500 miles. At certain points in its course, the Nile falls over a series of cataracts, or, properly speaking, descends a series of tumultuous rapids, for the fall is nowhere above two feet of sheer descent. The cataracts are not altogether a bar to navigation, as vessels which sail up the river may be drawn up by an extraordinary force. There are parties of Arabs who make a business of hauling boats up the cataracts. The Nile has also numerous islands in its course.

The grand phenomenon connected with the Nile, is its annual overflow of the banks which border it—an event looked for with as much certainty as the daily rising of the sun. These inundations of the Nile are owing to the periodical rains which fall between the tropics. They begin in March, but have no effect upon the river until three months later. Towards the end of June it begins to rise, and continues rising at the rate of about four inches a-day, until the end of September, when it falls for about the same period of time. Herodotus, the Grecian historian, informs us, that in his time a rise of sixteen cubits was sufficient to water the country. At present, twenty-two cubits are considered a good rise. The towns are generally built in such a situation and manner as not to be overflowed by the inundation, and in some parts of the country there are long raised causeways upon which the people may travel during the floods. It is only in cases of an extraordinary rise that any villages are destroyed. The inundations, instead of being viewed as a calamity, are considered a blessing, for they are the cause of inexhaustible fertility. After the waters have subsided, the earth is found covered with mud, which has been left there by the river. This mud, which is principally composed of argillaceous earth and carbonate of lime, serves to fertilise the overflowed land, and is used for manure for such places as are not sufficiently saturated by the river; it is also formed into bricks, and various vessels for domestic use. The whole valley of the Nile may be considered as an alluvial plain formed of the washed-down mud and sand of central Africa, and it is therefore to these inundations that Egypt owes its existence. The accumulation of soil has been estimated at about forty feet within the last four thousand years.

In Upper and Middle Egypt, there are immense numbers of canals on the left bank of the river. Mehemet Ali, the present pacha, has opened many of the old canals, which had been closed for centuries, and dug new ones; among the latter, the canal of Mahmoud, connecting the harbour of Alexandria with the Nile, near Fouah, forty-eight miles long, ninety broad, and eighteen deep, is a magnificent work. The Delta is bordered by a number of maritime lakes or lagoons, which at different periods have undergone considerable changes; some of them had been dried up, when, from various causes, their connection with the ocean, had been interrupted, was again resumed, and exhausted basins replenished with water. In ancient Egyptian mythology, the Nile was revered the tutelary deity of the country. His attribut the crocodile, the sphinx, the hippopotamus, a dolphin.

It might be supposed that in consequence annual inundations, Egypt would be a wet or country; but the very reverse is the case. The are speedily dried up and carried off as vapours winds, leaving the climate so remarkably dry tha in the open air will not putrify, but be dried or shr up. Rain, snow, thunder, or any of the commo spheric phenomena, are seldom or never seen or In consequence of the dry arid heat during mo of the year, hot winds from the sandy deserts, mode of living of the people, ophthalmia, or dis the eyes, is common, and many of the inhabita blind of one or both eyes. The principal winds over the country are from the north, and are o use in tempering the atmosphere and wafting up the Nile against the current.

To the above account of the Nile, we add the ing pleasing sketch by Mr Bowring, as given interesting small work for youth, entitled 'Morals:"—"Among the Egyptians, the attachm less to the soil than to the river—the river Nile is in their eyes, as it was in the eyes of their fore a sort of divinity. They speak of their Nile w intensity of personal affection—it is their dail factor; to it they owe their wealth great or sm verdure of their fields, their food, their drink clothing—for it produces the vegetables and they eat; it gives the water with which they their thirst and cook their victuals; it causes th tree to grow of which they make their garm supplies their flocks and herds. There is not a on its banks who, from the time at which she is fi to carry a pitcher on her head or bear one in he does not daily replenish it in the sacred and ve stream. Its praise passes into proverbs, into the talk. I remember travelling to the Bahr el Yer and having alighted, I gave my horse to a poor woman; when, on remounting, I put a small coin hand, she said, 'May Allah bless thee as he bles course of the Nile!' A hundred times I had beer Egypt, 'You will return hither. No one ever dr waters of the Nile without being irresistibly imp drink them again.' And the water, though not delicious and healthful. The Egyptian Levantin a saying, that 'What champagne is to other wine Nile to other waters;' and there is also an proverb—'Had Mahomet drunk the waters of th he would have staid on earth, and not have himself to be conveyed to Paradise.' * * * are between 5000 and 6000 boats constantly in ment on the two branches of the Nile, the Rose Damietta branches; and from the point of their up to Assouan. There is the first cataract, called—but it is not a cataract; it is merely a where the waters rush through the granite having, however, channels so large, that during months of the year the boats can be hauled th and proceed to Wadi Halfa, the second cataract boats are of all sizes, from the smallest *pont* to which will convey 200 tons of goods. They are most part of coarse construction, carrying one large triangular sails, and are frequently overtu the sudden gusts on the river."

The district of country west from the banks river is ordinarily called the Libyan desert or d and that on the east the Arabian.

CLIMATE—NATURAL HISTORY.

In Egypt, the harvests follow each other at tance of about six or eight weeks, according different kinds of grain, leaving time in most c a succession of crops wherever there is a full co

...ver. The cold season commences with December, ...continues for about two months. Early in Feb...ruary showers, when the atmosphere acquires ...rightful warmth, and the trees put forth their ...ves. The period of summer may be said to com...ce in June, and to end at the close of September. ...ansition from the one season to the other is so ...perceptible that it is scarcely possible to say when ...one begins and the other ends. During these ...months, the heat is intense; the fields to which ...swelling river has not attained, are parched like ...rt, and no green leaf is seen but such as are pro...by artificial irrigation. Autumn, which is only ...ed by a slight diminution of temperature, con...ues about the middle of October, when the heavy ...ds the Nile retires within its channel; and till ...ppearance of that season, which can only be called ...from its situation in the calendar, the face of ...country resembles a beautiful and variegated mea...Volney's description is thus a matter of fact, ...Egypt assumes in succession the appearance of an ...of fresh water, of a rainy morass, of a green level ...and of a parched desert of sand.

...the nature of the surface, and the universal ...of the surrounding desert, Egypt is much hot...than other countries under the same parallel. ...March to November, the atmosphere is inflamed ...scorching sun and a cloudless sky, the average ...of the thermometer being about 90°; during the ...ten months, it is about 60°. At sunset, the winds ...the nights are generally cool, and the dews ... Except along the sea-shores, rain is a phenom...in Egypt. At Cairo, there are on an average ...five showers in the year; in Upper Egypt, one ...at most; nor are they considered as beneficial ...agriculture of the country. Thunder and light...are still more uncommon, and are likewise com...ly divested of their terrific qualities. Showers of ...sweeping from the hills of Syria, are sometimes ...to reach the confines of Egypt; but ice is a ...reality so extremely rare, that instances have ...red of its being sold at a high price.

...the geological features, Egypt presents great ...ety, including specimens of almost every formation, ...the earliest to the most recent. Several granitic ...of hills stretch to a considerable extent. These ...the vast quarries of syenite, from which the ancients ...the stupendous masses required for their colossal ...and obelisks. Between Assouan and Esna lies ...Sebooane, or middle district, which supplied blocks ...the temples; and beyond it, the northern or cal...reous district stretches to the southern angle of the ... This last chain supplied materials for the ...ids, and many public buildings. The limestone ...ts from Syene to the Mediterranean, and, in ...Egypt, from Alexandria to the Red Sea, in the ...ty of Suez. Other valuable rocks are abundant ...ypt, and various precious minerals are found. In ...the camel, so emphatically named the ship of ...sert, has long been domesticated in the country. ...giraffe, or camelopard, has been occasionally seen. ...striped, called zirrera ichneumon, is one of the ...celebrated animals in the country. Amongst the ...cats, it was venerated with a species of worship. ...serpents are domesticated in Egypt, where they ...the duties of our domestic cat, in ridding the ...es of the smaller animals. The names of the cro...and hippopotamus are familiarly associated with ...and the Nile. The number of the latter animal ...declined, and he is seldom seen below the Cata...A species of lizard, called the monitor of the ...the common ameleon; the lizard; the sorex, ...rus; and, of the marmot tribe, a particular genus ...the dipus, or jerboa; the goat, sheep, and the ...ox which figure in the Egyptian mythology, such ...dog, ape, buffalo, &c.; still belong to the zoology ...country. Of birds, the ostrich, the ibis, of which ...are several species, and the Egyptian vulture, are ...famous. With respect to fishes, the country pre...nothing remarkable.

INHABITANTS.

The population of Egypt is composed of an extraordinary mixture of races, and of all shades of colour; some claiming to be descendants of the ancient Egyptians, though utterly degenerated, others being from Arabian or Saracenic intruders, and so on to the number of a dozen distant races, also a variety of mixtures to whom no name can be assigned. The following is the common enumeration:—1. The race called Copts, the supposed descendants of the ancient Egyptians, and more certainly the feeble remnant of a once numerous Christian population. 2. The Fellahs, who compose the bulk of the labouring class, and who are supposed to be a mixture of ancient Egyptians, Arabians, and Syrians; they are rigid Moslems. 3. The Bedouin Arabs, the same in character, manners, and customs that they are every where, and apparently ever have been since the days of the patriarchs, regarding with disdain and proud independence all other classes of mankind, but more especially those of their own nation who have degraded themselves by taking up their abodes within walls. 4. Arabian Greeks, that is, the descendants of ancient Greek colonists, who have lost their ancient language, and speak a kind of Arabic. Many of them are mariners, but, in general, they pursue the inferior and handicraft trades. 5. Jews. To these must be added, as inhabitants of Egypt, 6. Syrian-Greeks and Maronites, who have, within the last century, greatly increased in numbers, and have proved successful rivals of the Copts and Jews as merchants and agents. 7. Armenians. 8. Turks. 9. Franks or Europeans. 10. Mamelukes. 11. Moggrebins, or Western Arabs. 12. Ethiopians and other Africans. The following is as near an approximation as can be obtained of the relative numbers of the different divisions of this motley crew:—Copts 150,000; Arab Fellahs 2,250,000; Bedouin Arabs 150,000; Arabian Greeks 25,000; Jews 20,000; Syrians 20,000; Armenians 10,000; Turks and Albanians 20,000; Franks 4000; Mamelukes 500; Ethiopians, &c. 7500; which amount in all to 2,667,000. Since this list was made up, the Mamelukes, a race of foreign mercenary soldiers, have been extinguished. As being dangerous to the state, or rather opposed to the introduction of European customs, they were utterly destroyed by order of Mehemet Ali.

The Arabs have been divided into three classes:—First, the wild independent Bedouins who occupy the desert; second, the pastoral tribes, who feed their flocks upon the borders of Egypt, and occasionally enter the cultivated provinces; and lastly, the peasants or Fellahs, who are devoted to agriculture and the arts. The latter, who form the bulk of the population, are described as a fine race of men in their persons, active in agricultural employments, and possessed of many good qualities. In their dress and household economy in general, though not strangers to comfort, they are so to every thing like luxury. Their food is very plain, and none but the higher orders, or those of dissolute lives, ever taste wine. The Arabs carry on the common trades of civilised life, but in a very unskilful and imperfect manner. We shall have occasion afterwards to speak of the general state of trade and manufactures in Egypt.

The Arabs have seldom more than two wives; in general only one. The women for the most part can neither read nor write; but the better sorts are taught embroidery and ornamental needlework, in which they mostly pass their time. The features of the Arab-Egyptian women are by no means regular. They are taller in general than our European women. Their hair is black and long, their skin of a disagreeable mulatto colour, and they stain various parts of their body with colouring matter. The tented Arabs still maintain their ancient character of proud independence, and in manners and customs are the same people they were 3000 years ago.

After enumerating the various oriental races who

inhabit Egypt, it need hardly be mentioned that Mahommedanism is the prevailing religion. Generally speaking, those who profess Christianity know nothing of its doctrines or moral precepts, the practice of their faith being confined to a few unmeaning ceremonies, and the repetition of a few established phrases. The whole people, high and low, are in a state of intellectual darkness; in the towns there exists, among Jews, Franks, and Turks, a degree of comfort and some wealth, but in the country parts many of the inhabitants are in a state of deplorable wretchedness; and in some places they are seen almost entirely naked, having neither regular food nor clothing, and no lodging except in holes or mud-built hovels. When they have any thing to take, they are ground to the earth by taxation, and both body and goods are at the mercy of their despotic ruler and his inferior functionaries.

ALEXANDRIA.

On reaching the shores of Egypt from the sea, the first place usually touched at by the traveller is Alexandria, the capital of Lower Egypt, or the Delta. It is situated on a low flat part of the coast, at some distance west from one of the main branches of the Nile. The two main branches of the river are to the east of Alexandria—the first in this direction being that on which is placed Rosetta or El Raschid, and that still farther east being that on which Damietta is situated. Between Alexandria and Rosetta is Aboukir Bay.

The Alexandria (or Iskandria) of the present day, is very different from its predecessor, founded by Alexander the Great, and destined by him to be the centre of his empire, and the commerce of the world. According to Pliny, it was fifteen miles in circuit, and contained a population of 300,000 individuals. It shone in all the pomp of architectural magnificence, and contained streets of immense breadth, which intersected it from end to end. Its public edifices were of the most splendid description, and its library contained 400,000 volumes, including all the Greek and Latin literature, of which we now only possess fragments. This treasure has been irreparably lost to the world. An order of Theodosius the Great, that all the heathen temples throughout the Roman empire should be overthrown, was the cause of it. A crowd of fanatical Christians stormed and destroyed the temple of Jupiter Serapis, where the library was, and the volumes were either burned or dispersed, and, like the lost tribes of the Jews, they have never been found. When Alexandria succumbed to the caliph Omar, it contained 4000 palaces, 4000 baths, 400 theatres or public edifices, and 12,000 shops, and a population which may be estimated by its including 40,000 Jews. Its appearance now is most melancholy and wretched, resembling, at a distance, according to one traveller, with its ruins grey, and flat-roofed houses, a town newly laid desolate by an enemy. The streets are narrow, dirty, and irregular, and usually crowded with "half-fed, half-clad" human beings. The climate of the place is also materially altered. From having been once salubrious, it is now very unhealthy. "Still Alexandria," says Sir Robert Wilson, "must be pronounced the key of Egypt, although insulated by water and desert from the surrounding country, since in its harbour alone security can be found for shipping of any burden throughout the year." The modern town does not occupy the site of the old one, which lies to the south, and presents an immense field of confused ruins. Over a space of from six to seven miles in circuit, is spread an assemblage of broken columns, obelisks, and shapeless masses of architecture, which are interspersed with some more modern buildings, such as churches, mosques, and monasteries. Amid this scene of widespread devastation, a few objects rise conspicuous, the most remarkable of which is "Pompey's Pillar;" it is *about ninety* feet high, and consists of a pedestal, *very fine shaft, and a Corinthian* capital, each being *formed of one entire piece of granite.* Vulgar belief ascribes the erection of this pillar to Cæsar, memoration of his triumph over Pompey, is now generally considered as erroneous. T plausible conjecture is, that it was reared by a of Egypt, named Pompey, in honour of the Diocletian. The next remarkable objects are obelisks vulgarly called Cleopatra's Needles, o ing erect, and the other laid prostrate. They posed each of a single block of granite, nea feet high, and entirely covered with hiero This circumstance indicates an Egyptian origi is conjectured that they were conveyed thith Memphis. The ancient canal between Cairo a andria has lately been restored by Mehemet the commerce of the place by this means gre proved.

In other respects, Alexandria is beginning t some marks of renovation. Mr Stephens, traveller,* observes—"I contemplated the i ments: a whole street of shops, kept by Eu and filled with European goods, ranges of fine h fine country-houses, and gardens growing upo sands, showed that strangers from a once b land were repaying the debt which the world the mother of arts, and raising her from the which she had been plunged by years of mis anarchy." The pacha has here his arsen barracks for his army, also his fleet when not employment; and he has endeavoured to cer a commerce that was formerly divided betwee places. Alexandria is further likely to be i from being an intermediate station for the ne intercourse betwixt England and India by wa isthmus of Suez and the Red Sea, from wh about eighty miles distant. The Nile, a short w Rosetta, when reached from Alexandria, is d by Mr Stephens as being worthy of its histo "I found it (says he) more than a mile w current at that season (December) full and the banks on each side clothed with a beautiful and groves of palm-trees—the most striking in African scenery—and the village of Fo stopping-place for boats coming up from Ro Damietta, with its mosques, and minarets, and domes, and groves of palms, forming a pic object in the view."

ROUTE OF THE NILE—CAIRO.

Egypt, as has been said, must be viewed sin strath or valley of a few miles in width, with Nile flowing through it; it is at least only on t of the river that the wonderful objects of an are seen, which excite the admiration of tr Pursuing the course of the river above the po separation into two main branches, these rema first into view on approaching Cairo, at the 30t of north latitude. Here the river consists of on ful broad stream, on the east or right bank of wh Cairo; and also on a very narrow branch, on or left bank, the famed Pyramids of Gizeh are The site of these structures is generally elevat the level of the plain, and stretches as a rocky for about fifty miles parallel with the river. Kahira, is not close upon the Nile, but stan distance of about a mile from it, at the bas rocky heights of Mokattam, and the large Boulac, on the river, is its harbour or port; he wise, are various manufacturing and other e ments, including a printing-office under the au the pacha. As in the case of Alexandria, the Cairo is very different from the ancient city name, erected by the caliphs in the middle age a walled town, built in a picturesque eastern st is the seat of the court of Mehemet Ali, whose are very extensive. The population of Cairo to about 240,000, but with that of the environs it to half a million.

* Incidents of Travel in Egypt, Arabia Petræa, and Land—"People's Edition," W. and R. Chambers.

Mahomet Ali, and all Europeans, in whatever country, are perfectly safe from insult or injury. Old Cairo, the original town near this spot, and called by the Arabs Masr-el-Atekah, is a suburb at the distance of a mile on the banks of the river, the intervening space being laid out in gardens and plantations. It contains most of the population, which is now partially settled, and quite a place of temporary summer resort for the citizens of Cairo, is believed to be as old as the days of the Israelites in Egypt, and a house in it is shown as that in which the Virgin Mary lodged after she had fled into the country from Palestine. The whole town is said to have been erected in the year 750, at the Saracenic conquest, and called El Kahira, the victory. In the year 1175, it was visited by Saladin, who surrounded it with a wall for defence.

"Mr Stephens's account of his approach to Cairo, in going up from Alexandria, conveys a striking idea of the appearance of the city and its environs:—'Towards the evening of the fourth day, we came in sight of the world's great wonder,' the colossal pyramids, standing at the head of a long reach of the river directly in front of us, and almost darkening the horizon. The sun was descending in that cloudless sky known only in Egypt; a few moments their lofty summits were lighted by a gleam of burnished red; and as the glorious orb settled behind the mountains of the Libyan Desert, the atmosphere became dark and more indistinct, and their outline continued to be seen after the whole earth was shrouded in gloom. The next morning at seven o'clock we were alongside the Island of Rhoda, as the Arabs name it, where the daughter of Pharaoh came down to bathe, and found the little Moses. We went over in a small boat to Boulac, the harbour of Cairo, breakfasted with Mr T——, the brother-in-law of my friend, an engineer in the pacha's service, whose interesting wife is the only English lady there; and, mounting a donkey, in half an hour I was within the walls of Grand Cairo. The traveller who goes there with the reminiscences of Arabian tales hanging about him, will nowhere see the Cairo of the caliphs; but when arriving there he will have seen a curious and striking spectacle. He will have seen, streaming from the gate among loaded camels and dromedaries, the lordly Turk, with his glittering sabre, the wily Greek, the grave Armenian, and the despised Jew, with their long pelisses, their turbans, solemn beards, and various and striking costumes; he will have seen the harem of some rich Turk, eight or ten women on horseback, completely enveloped in large black silk wrappers, entirely hiding face and person, and preceded by that monstrous of the East, a black eunuch; the miserable Copt, the Arab saint, with a few scanty rags on his head and shoulders, the rest of his body perfectly naked; the wealthy Bedouin of the desert, the haughty Emir, with a cocked gun in his hand, dashing furiously through the crowd, and perhaps bearing some hasty mandate of his royal master; and perhaps he will have seen and blushed for his own image in the person of some beggarly Italian refugee. Entering the gate, guarded by Arab soldiers in a bastard European uniform, he will cross a large square filled with officers and soldiers, surrounded by what are called palaces, but being nothing that can interest him save the house in which the gallant Kleber, the hero of many a bloody field, died ingloriously by the hands of an assassin. Passing this square, he will plunge into the narrow streets of Cairo. Winding his doubtful and perilous way among tottering and ruined houses, jostled by camels, dromedaries, horses, and donkeys, perhaps he will draw up against a wall, and, thinking of plague, hold his breath, and screw himself *into nothing, while he*

the delight of the imagination, greatest among the great, whose splendour and opulence made the prophet smile?'

One of my first rambles in Cairo was to the slave-market. It is situated nearly in the centre of the city, as it appeared to me, although, after turning half a dozen corners in the narrow streets of a Turkish city, I will defy a man to tell where he is exactly. It is a large old building, enclosing a hollow square, with chambers all around, both above and below. There were probably 500 or 600 slaves, sitting on mats in groups of ten, twenty, or thirty, each belonging to a different proprietor. Most of them were entirely naked; though some, whose shivering forms evinced that even there they felt the want of their native burning sun, were covered with blankets. They were mostly from Dongola and Sennaar; but some were Abyssinians, with yellow complexions, fine eyes and teeth, and decidedly handsome. The Nubians were very dark, but with oval, regularly formed and handsome faces, mild and amiable expressions, and no mark of the African except the colour of their skin. The worst spectacle in the bazaar was that of several lots of sick, who were separated from the rest, and arranged on mats by themselves; their bodies thin and shrunken, their chins resting upon their knees, their long lank arms hanging helplessly by their sides, their faces haggard, their eyes fixed with a painful vacancy, and altogether presenting the image of man in his most abject condition. Musing them as their native sands, their crouching attitudes, elongated jaws, and rolling eyes, might have led one to mistake them for those hideous animals the orang-outang and ape. Prices vary from twenty to a hundred dollars; but the sick, as carrying within them the seeds of probable death, are easily offered for almost nothing, as so much damaged merchandise which the seller is anxious to dispose of before it becomes utterly worthless on his hands. There was one, an Abyssinian, who had mind as well as beauty in her face; she was dressed in silk, and wore ornaments of gold and shells, and called me as I passed, and peeped from behind a curtain, smiling and coquetting, and wept and pouted when I went away; and she thrust out her tongue to show me that she was not like those I had just been looking at, but that her young blood ran pure and healthy in her veins.

Cairo is surrounded by a wall; the sands of the desert approach it on every side, and every gate, except that of Boulac, opens on a sandy waste. Passing out by the Victory Gate, the contrast between light and darkness is not greater than between the crowded streets and the stillness of the desert, separated from them only by a wall. Immediately without commences the great burial-place of the city. Among thousands and tens of thousands of Mussulmans' headstones, I searched in vain for the tomb of the lamented Burckhardt; there is no mark to distinguish the grave of the enterprising traveller from that of an Arabian camel-driver. At a short distance from the gate are the tombs of the caliphs, large and beautiful buildings, monuments of the taste and skill of the Saracens. From hence, passing around outside the walls, I entered by the gate of the Citadel, where I saw what goes by the name of Joseph's Well, perhaps better known as the Well of Saladin. It is 45 feet wide at the mouth, and cut 270 feet deep through the solid rock, to a spring of salt water, on a level with the Nile, whence the water is raised in buckets on a wheel, turned by a buffalo."

PYRAMIDS OF GIZEH.

"Almost from the gates of Cairo (continues this writer) the pyramids are constantly in sight, and after crossing the ferry, we rode towards them. Approaching, the

three great pyramids and one small one are in view, towering higher and higher above the plain. I thought I was just upon them, and that I could almost touch them; yet I was more than a mile distant. The nearer I approached, the more their gigantic dimensions grew upon me, until, when I actually reached them, rode up to the first layer of stones, and saw how very small I was, and looked up their sloping sides to the lofty summits, they seemed to have grown to the size of mountains. The base of the great pyramid of Cheops is about 800 feet square, covering a surface of about eleven acres, according to the best measurement, and 461 feet high [being 117 feet higher than St Paul's at London]. Even as I walked around it, and looked up at it from the base, I did not feel its immensity until I commenced ascending; then, having climbed some distance up, when I stopped to breathe and look down upon my friend below, who was dwindled into insect size, and up at the great distance between me and the summit, then I realised in all their force the huge dimensions of this giant work. It took me twenty minutes to mount to the summit; about the same time that it had required to mount the cones of Ætna and Vesuvius. The ascent is not particularly difficult, at least with the assistance of the Arabs. There are 206 tiers of stone, from one to four feet in height, each two or three feet smaller than the one below, making what are called the steps. Very often the steps were so high that I could not reach them with my feet. Indeed, for the most part, I was obliged to climb with my knees, deriving great assistance from the step which one Arab made for me with his knee, and the helping hand of another above.

It is not what it once was to go to the pyramids. They have become regular lions for the multitudes of travellers; but still, common as the journey has become, no man can stand on the top of the great pyramid of Cheops, and look out upon the dark mountains of Mokattam bordering the Arabian desert; upon the ancient city of the Pharaohs, its domes, its mosques and minarets, glittering in the light of a vertical sun; upon the rich valley of the Nile, and the 'river of Egypt' rolling at his feet; the grand range of pyramids and tombs extending along the edge of the desert to the ruined city of Memphis, and the boundless and eternal sands of Africa, without considering that moment an epoch not to be forgotten. Thousands of years roll through his mind, and thought recalls the men who built them, their mysterious uses, the poets, historians, philosophers, and warriors, who have gazed upon them with wonder like his own."

On the summit is an area, about thirty feet square, consisting of six square blocks of stone irregularly disposed. Six millions of tons of stones are supposed to have been employed in the construction of the pyramid, and 100,000 men for twenty years are said to have been engaged in the erection of this the most stupendous mass of masonry in the world. The four angles of the pyramid correspond with the four points of the compass. The mass of the pyramid is not altogether solid. An entrance has been made, by which a series of labyrinthine passages and chambers have been discovered. "The entrance (says Stephens) is on the north side. The sands of the desert have encroached upon it, and, with the fallen stones and rubbish, have buried it to the sixteenth step. Climbing over this rubbish, the entrance is reached, a narrow passage three and a half feet square, lined with broad blocks of polished granite, descending in the interior at an angle of twenty-seven degrees for about ninety two feet; then the passage turns to the right, and winds upwards to a steep ascent of eight or nine feet, and then falls into the natural passage, which is five feet high and one hundred feet long, forming a continued ascent to a sort of landing-place; in a small recess of this is the orifice or shaft called the well. Moving onward through a long passage, the explorer comes to what is called the Queen's chamber, seventeen feet long, fourteen wide, and eighteen high. *I entered a hole opening* from this crypt, *on my hands and knees*, came to a larger opening, not a regular chamber, and now cumbered with fallen stones. Immediately above this, ascending by an inclined plane lined with highly polished granite, and about 120 feet in length, and mounting a short space by means of holes cut in the sides, I entered the King's Chamber, about thirty-seven feet long, seventeen feet wide, and twenty feet high. The walls of the chamber are of red granite, highly polished, each stone reaching from the floor to the ceiling; and the ceiling is formed of nine large slabs of polished granite, extending from wall to wall. It is not the least interesting part of a visit to the interior of the pyramids, as you are groping your way after your Arab guide, to feel your hand running along the sides of an enormous shaft, smooth and polished as the finest marble, and to see by the light of the flaring torch chambers of red granite from the Cataracts of the Nile, the immense blocks standing around and above you, smooth and beautifully polished in places, where, if our notions of the pyramids be true, they were intended but for few mortal eyes. At one end of the chamber stands a sarcophagus, also of red granite; its length is seven feet six inches, depth three and a half, breadth three feet three inches. Here is supposed to have slept one of the great rulers of the earth, the king of the then greatest kingdom of the world, the proud mortal for whom this mighty structure was raised. Where is he now? Even his dry bones are gone, torn away by rude hands, and scattered by the winds of heaven. The interior of the pyramid is excessively hot, particularly when surrounded by a number of Arabs and flaring torches." To this account it may be added, that there is a well in the pyramid which is referred to by the Roman historian Pliny, as being eighty-six cubits in depth. It has been descended by a few enterprising travellers.

In one of the chambers of the great pyramid the annexed figure with hieroglyphics has been discovered; the hieroglyphics signify the word "Seamphis," the name of the builder, as it is believed, who lived about 2120 years before Christ.

To the celebrated Belzoni we are indebted for a knowledge of the interior of the pyramid of Cephrenes, brother and successor of Cheops; but any detail of his labours would carry us far beyond our limits. Suffice it to say, that they were directed with remarkable skill, and a perseverance which no obstruction could arrest. It stands upon a rather higher elevation than that of Cheops, and is built of the same species of limestone, and joined with the same kind of cement. Its base is 684 feet, and its height 456. The steps are much splintered and broken, but it can be ascended to a certain extent on the southern side without great difficulty. The opening of this pyramid presents to us a striking instance of discrimination and tact. Herodotus had declared that it contained no chambers, and modern travellers had taken this report for granted. The practised eye of Belzoni, however, detected certain indications of an entrance, and, after many days of labour upon the hard stone, he found himself at last in a chamber hewn out of the solid rock, from the floor to the roof, which last is of the same stone as the pyramid itself. In the sarcophagus were the bones of an animal, very generally supposed to be those of a sacred bull, an object of veneration among the ancient Egyptians. On the wall at the west end of the chamber he per-

ceived an Arabic inscription, from which it has been inferred that the two larger pyramids had been explored, at the distance of many years, by some of the caliphs. The third large pyramid is that of Mycerinus; but it is much less, and not so important an object as the others. There is also a fourth large pyramid, although travellers are in the habit of speaking of the pyramids of Gizeh as only three in number. Those of Sakhara appear to be a continuation of the great cemetery to which those of Gizeh belong. Two of them only are very large, and they are all more dilapidated than those we have described; hence, a higher antiquity has been ascribed to them. With regard to the other Egyptian pyramids, they are, in their leading characters, nearly similar to those described, and the end for which they were constructed we infer was the same—that of receptacles for the dead, and chiefly for the bodies of kings and other royal personages. Some maintain that they were consecrated to the sun, others that they were used for astronomical observations, others for transmitting historical information, and so on.

Numerous ruined edifices and tumuli lie scattered about among the pyramids, and extend north and south along the left bank of the Nile as far as the eye can reach. The stone buildings supposed to be mausoleums, are generally of an oblong form, having their walls slightly inclined from the perpendicular inwards, the peculiar characteristic of ancient Egyptian architecture; flat-roofed, with a sort of parapet round the outside, formed of stones; rounded at the top, and rising about a foot above the level of the terrace. The walls are constructed of large masses of stone, of irregular shape. The various chambers of these edifices were found to be profusely embellished with sculptures and bas-relief paintings, many of which were spirited and beautiful. In one of them were found the remains of several mummies, and in another the fragments of a figure as large as life. An important circumstance remains to be noticed. In each of these edifices there was discovered a well, from the bottom of which a passage led to a subterranean chamber. Caviglia cleared out one of these shafts, which was sixty feet deep; and in the chamber he found a plain but highly finished sarcophagus, nearly of similar dimensions with that in the pyramid of Cheops. This supplies a strong argument in favour of the hypothesis that the pyramids are tombs.

By far the most brilliant of Mr Caviglia's discoveries, are those to which he was led in the laborious task of uncovering the great sphinx in front of the pyramid of Cephrenes. On the stone platform on the foreground, and centrally between the outstretched paws of the sphinx, was discovered a large block of granite, which fronted the east, and was highly embellished with sculpture in bas-relief. Two other tablets of calcareous stone, similarly ornamented, were supposed, with that of granite, to have constituted part of a temple, by being placed one on each side of the latter, and at right angles to it. One of them in fact was still remaining in its place. Of the other, which was thrown down and broken, the fragments are now in the British Museum. A small lion couchant, in front of this edifice, had its eyes directed towards the sphinx. There were, besides, several fragments of other lions, rudely carved, and the fore part of a sphinx, of tolerable workmanship. In front of the temple was a granite altar, with one of the four "horns" still retaining its place at the angle. From the effects of fire evident on the stone, this altar, it would seem, had been used for burnt-offerings. Inscriptions were found upon the digits of the paws, but of no moment.

Like every thing else in Egypt, this singular monument has been the subject of very opposite representation. The general accuracy of Dr Richardson induces us to lay his account of it before the reader. "The breast, shoulders, and neck, which are those of a human being, remain uncovered; as also the back, which is that of a lion. The neck is very much eroded, and, to a person near the head, seems as if it were too heavy for its support. The head-dress has the appearance of an old-fashioned wig, projecting out about the ears like the hair of the Berberi Arabs; the ears project considerably; the nose is broken; the whole face has been painted red, which is the colour assigned to the ancient inhabitants of Egypt, and to all the deities of the country except Osiris. The features are Nubian, or what from ancient representation may be called ancient Egyptian, which is quite different from the negro feature. The expression is particularly placid and benign, so much so that the worshipper of the sphinx might hold up his god as superior to all the other gods of wood and stone which the blinded nations worshipped." As to the dimensions of the sphinx, the stretch of the back is about 120 feet, and from the top of the head to the base of the reclining figure about 40 feet. Such has been the drifting of the sands, that the whole figure is now covered, except the head and a portion of the dilapidated neck, as seen in the annexed cut. The French uncovered a part of the figure, but the sands have again drifted it up.

A few miles above the pyramids of Gizeh once stood Memphis, a city as large and flourishing as Alexandria, but now utterly destroyed, and the very ruins hardly distinguishable.

DISTRICT ABOVE CAIRO.

Pursuing the course of the Nile upwards, and passing various villages and ruined structures, the first place of importance which occurs is Beni Soueff, situated on the left bank in one of the richest and most extensive tracts of corn land in Egypt, at the distance of 114 miles above Cairo. Penetrating a pass of the sylvan chain of mountains, at about fifteen miles west-south-west of this town, we enter the district of Fayoum. Medinet-el-Fayoum, the capital, is situated in lat. 29° 20′ north, long. 31° 1′ 30″ east, built from the materials, and partly on the site, of the ancient Crocodilopolis, the name of which was changed to Arsinöe, by Ptolemy Philadelphus, in honour of his sister. It contains about 5000 inhabitants, chiefly Moslems, with the usual proportion of mosques and baths. A canal from the Bahr Yousuf divides it into two parts, which are connected by five bridges. The principal remains of the ancient city lie to the north of the present town, occupying an area nearly two miles and a half from north to south, and two miles from east to west. Amongst the ruins are numerous fragments of statues, obelisks, &c. The town of Arsinöe was one of the most celebrated in Egypt, and so late as the time of the Romans contained a flourishing population. Fayoum is still reckoned the most productive part of Egypt, and all the country as far as Lake Mœris is well cultivated. This celebrated lake was of artificial formation in ancient times, and extended to several hundreds of miles in circumference. It was connected by canals with the Nile. Continuing the route up the Nile, at the distance of about seventy miles we arrive on the same or western bank, at a considerable village called Al Rairamoun, where Ali Pacha has established a sugar manufactory and a distillery. In the environs

are extensive sugar plantations, and there is a saltpetre manufactory in the neighbourhood. About six miles to the south-west of this place are the remains of Hermopolis, an ancient town, whose representative is a large village called Oshmunein. About a league to the south of it is the large and well-built town of Mellane; and ten leagues farther on, and near the western shore, that of Manfaloot, anciently a place of great trade. It is a sort of capital, and the see of a Coptic bishop. The adjacent country is very fertile, particularly in fruits. About two leagues farther up, on the eastern side of the river, are several pits, in which are deposited the mummies of crocodiles. But we have now entered the Said, or Upper Egypt, which properly begins with Manfaloot, which is a sort of frontier town on the left bank. The valley of the Nile is in this part about eight miles from mountain to mountain, and, above Manfaloot, a cultivated place, commences on the eastern side of the river. For many miles the left bank of the river is perforated with excavations, which, however, have not been explored.

DENDERA.

Proceeding upwards beyond Manfaloot, we pass in the distance of eighty or ninety miles various towns of less or more importance; among others, Siout and Girzah on the left, and the ruins of Ekhim on the right bank. On the face of a range of mountains near Siout, is a long range of tombs, the burial-place of ancient Egyptians, excavated as chambers in the solid rock, and still ornamented in their ceilings with coloured paintings of old date, and which, like other remains of art, have been preserved by the extreme dryness of the climate. These, and all other objects, however, are of inferior interest to those which begin to be disclosed on approaching a bend of the river near the 26th degree of north latitude. Here the view opens of the magnificent ruins of the temple of Dendera, and some miles farther on those of Thebes.

The ruins of Dendera are more than a mile in length, and half a mile in breadth. The grand object of interest is the temple, a very celebrated ruin, which, if cleared from rubbish, would present a front of 160 feet, with a height of 60 feet. The principal propylon—or, as we might call it, the gateway of the approach—is a truly magnificent object, forming a tall block of columnar architecture, covered with the most exquisite sculpture and hieroglyphics. The sculptured figures on the dilapidated walls of the temple bendings are equally beautiful. Some idea of the grandeur of these ruins may be gathered from the circumstance recorded of the French army during its campaign in Egypt. When the soldiers first beheld the ruins, they were so overpowered with their gigantic size and extraordinary beauty, that they exclaimed, as with the heart and voice of one man, such a sight more than repaid them for all the sufferings and dangers of the war. It is supposed to have been consecrated to the worship of Isis, who was the principal deity in the Egyptian Pantheon. The temple itself still retains all its original magnificence. Time has only rendered it more venerable and imposing in appearance.

THEBES.

Thebes, once the capital of Upper Egypt, and the most splendid city in the world, no longer exists; its site can now only be traced in four petty villages, Luxor, Karnac, Medinet Abou, and Gornoo, on both banks of the river—distance from the sea 650 miles. Thebes is famous as "the city of a hundred gates," the theme and admiration of ancient poets and historians, the wonder of travellers—"that venerable city," as Pocock eloquently remarks, "the date of whose destruction is older than the foundation of other cities, and the extent of whose ruins, and the immensity of whose colossal fragments, still offer so many astonishing objects, that one is riveted to the spot, unable to decide whither to direct the step or fix the attention." These ruins extend about eight miles along the Nile, from each bank to the sides of the enclosing mountain, and describe a circuit of twenty-seven miles. The most remarkable objects on the eastern side are the temples of Karnac and Luxor; and on the western are the Memnonium, or palace of Memnon, two colossal statues, the sepulchres of the kings, and the temple of Medinet Abou. Almost the whole extent of eight miles along the river is covered with magnificent portals, obelisks decorated with the most beautiful sculpture, forests of columns, and long avenues of colossal statues. The largest of these temples, and of any in Egypt, is that at Karnac, on the site of the ancient Diospolis.

With respect to the magnificence and beauty of its several parts, this temple has been pronounced as having no parallel in the whole world. It has twelve principal entrances, each of which is composed of several propyla and colossal gateways, besides other buildings attached to them, in themselves larger than most other temples. The sides of some of these are equal to the bases of the greater number of the pyramids in Middle Egypt. One of the propyla is entirely of granite, adorned with the most finished hieroglyphics, and many of them have been furnished with colossal statues. The avenues of sphinxes that lead in several directions to the propyla, one of which was continued the whole way across the plain to the temple at Luxor, nearly two miles distant, correspond to the magnificence of the principal structure; and the body of the temple, which is preceded by a large court, consists of a prodigious hall or portico, the roof of which is supported by 134 columns, some 26, others 34 feet in circumference; four beautiful obelisks mark the entrance to the shrine, which consists of three apartments, built entirely of granite. The dimensions of this great edifice are about 1200 feet in length, and 420 in width. But the principal fane, grand and imposing as it is, sinks into nothing when compared with the extent and number of the buildings which surround it; the prodigious gateways of polished granite, covered with sculpture, and adorned with colossal statues; the subordinate temples which any where else would be esteemed magnificent piles; and the avenues, which approach it from almost every point of the compass, miles in length, and guarded by rows of sphinxes of vast size, cut out of single blocks of syenite. The field of ruins at Karnac is about a mile in diameter. Probably the whole of the space was once, in the prouder days of Thebes, consecrated entirely to the use of the temple.

About a mile and a quarter above Karnac, are the village and temple of Luxor. This temple, though not of such vast dimensions as that of Karnac, is in a superior style of architecture, and in more complete preservation. The entrance is thought to surpass every thing else that Egypt presents, and the two obelisks are considered the finest in the world. But the objects which most attract attention are the sculptures which cover the east wing of the northern front. They contain, on a great scale, a representation of a victory gained by one of the ancient kings of Egypt over their Asiatic enemies. The number of human figures introduced amounts to 1500—500 on foot, and 1000 in chariots.

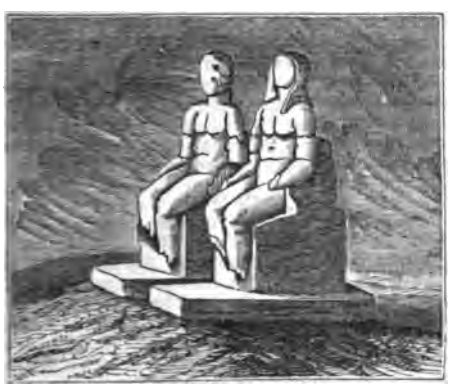
The disposition of the figures, and the execution of the whole picture, are equally remarkable, and far surpass all preconceived ideas of the state of art at the remote era to which we must attribute them. After passing several gateways, we enter what is conjectured to be the palace of the great Osymandyas. These ruins of Luxor and Karnac represent only one-half of ancient Thebes. The temples of Medinet Abou are also splendid, and upon a grand scale. It was so placed as to be exactly opposite to that of Luxor, on the other side of the Nile, while the magnificent structure at Karnac was fronted by the Memnonium or temple of Dair; and hence all these grand objects formed so many stages or prominent points in the religious processions of the priests. Though the tabernacle of Jupiter dwelt at Karnac, the proper Diospolis, yet it was carried over

the river every year, and remained a few days in Libya; and we find, from a general estimate, that there was a space of between nine and ten miles over which they might exhibit the pomp and parade of their superstition, both going and returning. Almost every part of the road through this immense theatre was lined with sphinxes, statues, propyla, and other objects calculated to inflame the ardour of devotion.

The Memnonium deserves particular notice. This celebrated relic of antiquity, the palace of king Memnon, or of the Pharaohs, faces the east, and is fronted with a stupendous propylon, of which 234 feet of its length are still remaining.

Every stone in the propylon appears to have been shaken and loosened, as if from the concussion of an earthquake. The passages which conduct to the chambers are so broken and filled up, as hardly to admit of examination. The walls are in various parts ornamented with sculptures, and other pictorial devices. One of the most striking is a battle scene. The various situations of victors and vanquished are represented in a very lively manner, and the whole sculpture, though but roughly executed, is full of fire. In the Memnonium there is still to be seen the statue of Osymandyas, or Sesostris, which is allowed to be the finest relic of art which the place contains, although shattered and broken. It is about twenty-six feet broad between the shoulders, fifty-four feet round the chest, and thirteen feet from the shoulder to the elbow. There are on the back hieroglyphical tablets, extremely well executed, which identify this enormous statue with the hero whose achievements were sculptured on the walls of the temple.

The above figure has sometimes been confounded with that of Memnon, so long celebrated for its vocal qualities. The latter, however, is one of the two statues



usually called Shamy and Damy, which stand at a little distance from Medinet Abou, in the direction of the Nile. These, we are told, are about fifty-two feet in height. They rest on thrones, which are respectively thirty feet long, eighteen broad, and between seven and eight high. They are placed about forty feet asunder, are in a line with each other, and look towards the east, directly opposite to the temple of Luxor. The southern one appears to be of one entire stone. The face, arms, and front of the body, have suffered so much, that not a feature of the countenance remains. The head-dress is beautifully wrought, as also the shoulders, which, with the back, are uninjured. The massy hair projects from behind the ears like that of the sphinx. The sides of the throne are highly ornamented with elegant devices. The colossus is in a sitting posture, with the hands resting upon the knees.

The gigantic statue which is placed on the north side, would appear, from various circumstances, to be that of the vocal Memnon, who was said to play a lively strain when the sun rose, and a melancholy one when he set. It presents the same attitude as its companion. These statues are placed on either side of an avenue leading to a place of worship, and evidently were followed by a series of other colossal figures, as the remains of some of them are still visible.

"The rambler among the ruins of Thebes (observes Mr Stephens) will often ask himself, 'Where are the palaces of the kings, and princes, and people, who worshipped in these mighty temples?' With the devout spirit of religion that possessed the Egyptians, they seem to have paid but little regard to their earthly habitations; their temples and their tombs were the principal objects that engrossed the thoughts of this extraordinary people. It has been well said of them that they regarded the habitations of the living merely as temporary resting-places, while the tombs were regarded as permanent and eternal mansions; and while not a vestige of a habitation is to be seen, the tombs remain monuments of splendour and magnificence, perhaps even more wonderful than the ruins of their temples. The whole mountain-side on the western bank of the river is one vast necropolis. The open doors of tombs are seen in long ranges, and at different elevations, and on the plain large pits have been opened, in which have been found 1000 mummies at a time. For many years, and until a late order of the pacha preventing it, the Arabs have been in the habit of rifling the tombs to sell the mummies to travellers. Thousands have been torn from the places where pious hands had laid them, and the bones meet the traveller at every step. The Arabs use the mummy-cases for firewood, the bituminous matters used in the embalmment being well adapted to ignition; and the epicurean traveller may cook his breakfast with the coffin of a king. Notwithstanding the depredations that have been committed, the mummies that have been taken away and scattered all over the world, those that have been burnt, and others that now remain in fragments around the tombs, the numbers yet undisturbed are no doubt infinitely greater; for the practice of embalming is known to have existed from the earliest periods recorded in the history of Egypt; and by a rough computation, founded upon the age, the population of the city, and the average duration of human life, it is supposed that there are from 8,000,000 to 10,000,000 of mummied bodies in the vast necropolis of Thebes.

Amid the wrecks of former greatness which tower above the plain of Thebes, the inhabitants who now hover around the site of the ancient city are perhaps the most miserable in Egypt. On one side of the river they build their mud huts around the ruins of the temples, and on the other their best habitations are in the tombs; wherever a small space has been cleared out, the inhabitants crawl in, with their dogs, goats, sheep, women, and children; and the Arab is passing rich who has for his sleeping place the sarcophagus of an ancient Egyptian."

Mr Stephens, in the above quotation, inquires, "Where are the residences of the kings, princes, and people of ancient Egypt?" These are entirely gone. They were built of brick, and have long since been utterly destroyed, or buried in fragments beneath the drifting sands of the desert, or the accumulations from the Nile. The temples and pyramids having been erected of a stupendous size and of a solid material, have survived, while all the ordinary habitations of the people have disappeared.

EDFOU, ELEPHANTINA, PHILOE.

The magnificent ruins of Thebes are not by any means the last object of interest in ascending the river. Passing Esneh, a town on the left bank, and an emporium of the trade with Abyssinia, we reach on the same side of the river, at about the distance of fifty miles from Thebes, the town of Edfou, composed as usual of a parcel of mud houses, bazaars, and a mosque. "At one corner of this miserable place (says Mr Stephens) stands one of the magnificent temples of the Nile. The propylon, its lofty proportions enlarged by the light of the moon, was the most grand and imposing portal I saw in Egypt. From a base of nearly 100 feet in length and 30 in

breadth, it rises on each side the gate in the form of a truncated pyramid, to the height of 100 feet, gradually narrowing, till at the top it measures 75 feet in length and 18 in breadth. Judge, then, what was the temple to which this formed merely the entrance; and this was far from being one of the large temples of Egypt.

It measured, however, 440 feet in length and 220 in breadth, about equal to the whole space occupied by St Paul's Churchyard. Its dromos, pronaos, columns, and capitals, all correspond, and enclosing it is a high wall, still in a state of perfect preservation. I walked round it twice, and, by means of the wall erected to exclude the unhallowed gaze of the stranger, I looked down upon the interior of the temple. Built by the Egyptians for the highest uses to which a building could be dedicated, for the worship of their gods, it is now used by the pacha as a granary and storehouse."

Fifty miles farther up we reach the boundary of Egypt and Nubia, at the town of Assouan or Syene. It is situated in lat. 24° 5′ 23″ north, long. 32° 54′ 49″ east. Its natural position, so well adapted for a frontier town, has rendered it at all times a place of importance. It was formerly a bishopric, but no Christians are now found here. Ruined churches and convents strike the eye of the traveller, but the Christian faith is unknown. Not only is it the last town in Egypt, but it is the last place in this direction in which the Arabic is spoken as the vernacular tongue. Here occurs the first Egyptian cataract in descending the Nile.

The present town of Assouan has been built a little to the north of a former town of Saracenic origin, the ruins of which are seen above it, and which was itself built upon the ruins of a Roman city. The whole town is encompassed with vestiges of buildings; the most interesting are about the old town, which occupies a strong and commanding position: the walls still remain, and though slight and of sun-dried brick, are very entire. They are flanked with towers at unequal distances. Many of the walls of the houses are also standing, but they are all unroofed. From the interior of many of them, passages lead down to the chambers of houses belonging to the ancient city, which are now under ground; of the old town a few insignificant ruins are all the remains.

Below the cataracts at this place occurs the small island of Elephantina, or, as it is called by the Arabs, Djeziret-zel-zabir, the flowery island; it is about 2000 feet in length, and 600 feet in breadth. The northern end is low and alluvial, well cultivated, and shaded with palm-trees. Here are the ruins of Roman fortifications, opposite to which, on the eastern bank of the Nile, are remains of Arabian works. There is an ancient quarry, from which large columns have been excavated; the marks of the workman's chisel and wedge are as fresh as if they were of yesterday. Some are lying blocked out partly wrought, and a large sarcophagus is two-thirds cut out of the rock. There are a number of architectural remains, sculptures, and hieroglyphical tablets. This beautiful island is inhabited by Nubians, who are perfectly black, without having any resemblance in their features to the negro.

Above the cataracts, at the distance of about six miles south from Assouan, is the far more interesting though smaller island of Philöe, or Djeziret-el-birba, meaning the Temple island. "This island is entirely covered with temples in large groups, and in a high state of preservation; and from a rocky eminence at its southern extremity the whole of the ruins may be seen at once. On the south-west side are two large temples, adorned and connected by long colonnades, but manifestly of different ages; on the right is the small Temple of Isis, with an isolated unfinished building, having no remains of the cella, nor any appearance of an interior cornice; and on the left are an obelisk, and long porticoes leading to a large temple of Isis, near a smaller one dedicated to Hatbod or the Egyptian Venus, which Champolion has pronounced the best in the island. The great Temple of Isis, which is the southernmost of all, has two colossal pyramidal propyla. None of the existing monuments of Egypt is better calculated to convey an adequate idea of the magnificence by which they are characterised, than the portico of this temple, which consists of twelve columns, four in front and three deep. The capitals, which are in pure Egyptian taste, represent varied forms and compositions of the palm branch, the domm leaf, and the lotus. These, as well as the sculptures on the columns, the ceiling, and the walls, have been painted in the most vivid colours, which still retain much of their original brightness. At the northern extremity of the island there are the remains of a triumphal arch, and other works of Roman architecture; and on the north-east side an unfinished temple, exhibiting many peculiarities of structure, and showing that the arts were not always stationary in Egypt. In a word, within the compass of this little island, Nubian cabins, Arab huts, Christian chapels, Roman fortifications, and Egyptian temples, are crowded together in such a manner as to produce a painful sense of the lapse of ages, the transitory nature of empires, and the destructibility of human works, however colossal in magnitude or solid in construction."*

ETHIOPIA.

Few travellers proceed farther up the Nile than Philöe, as the journey through Nubia is less safe or agreeable than that within the Egyptian territory. Yet without a visit to the Nubian valley of the Nile, which extends to near the head branches of the river in Abyssinia, much of the ancient grandeur of this part of the world will remain unexplored. Nubia, which is at present a Turkish province subject to the pacha of Egypt, is frequently called by the name Ethiopia, from the black complexion of whose inhabitants the term Ethiopian came in early times to signify one who is black, or a negro. This country of Nubia, or Ethiopia, is understood by some historians to have enjoyed a degree of civilisation and refinement in art, at a date even earlier than Egypt; and till the present day it possesses pyramids and other monuments of architectural skill, as wonderful, in the eyes of the traveller, as those in the lower divisions of the Nile.

One of the latest travellers who penetrated to this inner Ethiopian region, was Mr G. A. Hoskins, who in 1835 published a large volume descriptive of his journey. At about the 17th degree of north latitude, he reached Meroe, an island formed by the forking of two upper branches of the Nile. This island is between three and four hundred miles long, and contains several distinct groups of pyramidal structures of extraordinary magnificence, but greatly damaged by the hand of barbarians; also some traces of the remains of the city of Meroe, once the capital of Ethiopia. "Never (says Mr Hoskins) were my feelings more ardently excited than in approaching, after so tedious a journey, to this

* Encyclopædia Britannica, article Egypt.

magnificent necropolis. The appearance of the pyramids, in the distance, announced their importance; but I was gratified beyond my most sanguine expectations when I found myself in the midst of them. The pyramids of Gizeh are magnificent, wonderful from their stupendous magnitude; but for picturesque effect and elegance of architectural design, I infinitely prefer those of Meroe. I expected to find few such remains here, and certainly nothing so imposing, so interesting, as these sepulchres, doubtless of the kings and queens of Ethiopia. I stood for some time lost in admiration. From every point of view I saw magnificent groups, pyramid rising behind pyramid, while the dilapidated state of many did not render them less interesting, though less beautiful as works of art. I easily restored them in my imagination; and these effects of the ravages of time carried back my thoughts to more distant ages. The porticoes on the east side of each pyramid soon attracted my attention, and I passed eagerly from one to the other, delighted to find in several of them monuments of sculpture and hieroglyphics, which, few as they are, have, I trust, given us the assurance of the locality, and will, I hope, throw some light upon the mythology and arts of the Ethiopians. There are the remains and traces of eighty of these pyramids; they consist chiefly of three groups. The principal and most imposing, at which I arrived first, is situated on a hill, two miles and a half from the river, commanding an extensive view of the plain. There are thirty-one pyramids in this group, of which the plans of twenty-three may be traced; while to the south-east is another group of thirteen, in some degree of preservation. There are three other groups, two consisting of two pyramids each, and the other of six; and at 5600 feet to the west of the chief group, may be traced the remains of twenty-five pyramids, but almost buried."

After mentioning the appearance and minor details of these remarkable structures, this author continues—"I have carefully described this interesting and magnificent cemetery; but how shall I attempt to express the feelings of the traveller on treading such hallowed ground? One who, in passionate admiration for the arts, had visited the chief galleries of Europe, gazed upon the breathing image of divinity in the Apollo of the Vatican, or the deep expression of the most poetical of statues, the Dying Gladiator of the Capitol; who had beheld and felt the pictorial creations of a Raphael and a Correggio, and, with delight, contemplated Grecian, Roman, and modern sculpture, could not be unmoved at finding himself on the site of the very metropolis where those arts had their origin. The traveller who has seen the architectural antiquities of Rome, and has admired the magnificent use that nation has made of the arch, making it the chief ornament of their baths, palaces, and temples, would be further deeply interested at finding here the origin of that discovery. These emotions would be felt with peculiar force by one who, like myself, had been fortunate enough to trace art through her earliest creations—from the splendid Gothic edifices of the north to the ruins of the eternal city—from Rome to Magna Græcia—from the magnificent temple of Neptune at Pæstum, to the still purer antiquities of Sicily, particularly at Girgenti, where nature and art seem to have vied with each other—from that interesting island to the Morea and the city of Minerva, where the knowledge of the arts, sown in the most genial soil, produced the perfection of elegance, chasteness, and magnificence. But the seeds of the knowledge of the Greeks were derived from Egypt; and the Egyptians received their civilisation from the Ethiopians, and from Meroe, where I now am writing. The beautiful sepulchres of that city afford satisfactory evidence of the correctness of the historical records. Where a taste for the arts had reached to such perfection, we may rest assured that other intellectual pursuits were not neglected, nor the sciences entirely unknown. Now, however, her schools are closed for ever, without a vestige of them remaining. Of the houses of her philosophers, not a stone rests upon another; and where civilisation and learning once reigned, ignorance and barbarism have reassumed the sway.

These pyramids are of sandstone, the quarries of which are in the range of hills to the east. The stone is rather softer than the Egyptian, which, added to the great antiquity, may account for the very dilapidated state of most of these ruins, and also for the sculpture and hieroglyphics being so defaced. Time, and the burning rays of a tropical sun, have given them a brownish red tint, in some parts nearly black. As the operation of many ages is required to make this change on a light-coloured sandstone, a further proof is afforded of the great antiquity of the monuments. The stones being small, and easily removed, it is fortunate that the chief group of pyramids is so far distant from the Nile; otherwise, like those on the plain, near the river, a great proportion of them might have been carried away as materials for the erection of more modern edifices.

This, then, is the necropolis, or city of the dead. But where was Meroe, its temples and palaces? A large space, about 2000 feet in length, and the same distance from the river, strewed with burnt brick and with some fragments of walls, and stones similar to those used in the erection of the pyramids, formed, doubtless, part of that celebrated site. The idea that this is the exact situation of the city, is strengthened by the remark of Strabo, that the walls of the habitations were built of bricks. These indicate, without doubt, the site of that cradle of the arts which distinguish a civilised from a barbarous society. Of the birthplace of the arts and sciences, the wild natives of the adjacent villages have made a miserable burying place: of the city of the learned—'its cloud-capt towers,' its 'gorgeous palaces,' its 'solemn temples,' there is 'left not a rack behind.' The sepulchres alone of her departed kings have fulfilled their destination of surviving the habitations which their philosophy taught them to consider but as inns, and are now fast mouldering into dust. As at Memphis, scarcely a trace of a palace or a temple is to be seen. In this once populous plain, I saw the timid gazelles fearlessly pasturing. The hyænas and wolves abound in the neighbouring hills. This morning Signor B. met a man with the head of one which he was carrying in triumph to his village: he said that he had been attacked at once by three small ones when alone, and with no weapon but his lance. The small villages of Bagromeh, south of the ruins, consist of circular cottages with thatched conical roofs. The peasants have numerous flocks, which they send to pasture on the plain. On the banks of the river I observed cotton, dourah, and barley. Such is the present state of Meroe. It is an ample requital for my toilsome journey, to have been the first to bring to England accurate architectural drawings, &c., of all the remains of the ancient capital of Ethiopia, that city which will ever live in the grateful recollection of those who love the arts."*

Returning to Egypt, the description of the country may be concluded by a notice of those fertile districts in the desert at a distance from the Nile, and termed Oases.

THE OASES.

Oasis is a Coptic word signifying an inhabited place, and is usually applied to a fertile spot or island in the midst of a sandy desert. The Oases of Egypt are found at intervals in the middle of that vast plain of arid sand called the Libyan Desert. There are several of them, which are named, according to their size or situation, the Great, Little, Western, Northern, &c.

The Northern, or Oasis of Siwah.—This place, which is about 300 miles distant from Cairo, and about 100 from the Nile, is peculiarly interesting, from its being supposed to enclose the far-famed temple of Jupiter Ammon. The Oasis is about six miles long, and from four to five broad. It is pretty fertile, and contains

* Travels in Ethiopia, by G. A. Hoskins, Esq. 1 vol. 8vo. London, Longman & Company, 1835.

about 8000 inhabitants. The capital is called Siwah. Besides the splendid remains of the temple, supposed to be that of Jupiter Ammon, are the ruins of other sacred places, and a number of sepulchral excavations.

Great Oasis.—This Oasis is formed of a number of fertile isolated spots, which lie in a line parallel to the course of the Nile, and to the mountains which bound the valley of Egypt on the west. It is about two days' journey from the nearest part of the valley of the Nile. The patches of firm land are separated from one another by deserts of twelve or fourteen hours' walk—so that the whole extent of this Oasis is nearly 100 miles, the greater proportion consisting of a desert. It contains many gardens watered with rivulets, and its palm groves exhibit a perpetual verdure. According to a more recent account, it contains Egyptian ruins covered with hieroglyphic inscriptions. The principal town is called El-Kargeh. Here are the remains of a temple beautifully situated in the midst of a rich grove of palm trees. Near El-Kargeh, there is also a regular necropolis or cemetery, containing 200 or 300 buildings of unburned brick, chiefly of a square shape, and each surmounted by a dome similar to the small mosques erected over the graves of sheiks. At distances of a few miles, some other remains of ancient temples are found. This whole oasis has always been and still is dependent on Egypt. None of the other oases of the desert present us with any object worthy of being dwelt upon.

ANCIENT EGYPTIAN SOCIETY AND ART.

The discoveries which have been made in modern times by travellers (chiefly French, Italian, and English) in Egypt, although disclosing the remarkable remains of pyramids, temples, and tombs, which have been above adverted to, do not give any just idea of the grandeur and opulence of the ancient Egyptian dynasties. We learn from Josephus, Diodorus, Herodotus, and other historians, that at one time Egypt and the adjoining provinces under its sway contained 20,000 (some say 30,000) populous cities, and as many as 7,000,000 of inhabitants. At that early period (2300 to 1000 years before Christ) the country was also more fertile, and much less encroached upon by sandy deserts than it now is. Besides depending on its internal resources, it drew great wealth from the territories which it laid under contribution; but its chief source of revenue was in manufacturing industry and commerce. Its artisans excelled in all manner of handicraft employments, and its merchants conducted an export and import traffic on a most extensive scale; in short, Egypt was long the Great Britain of its day—the most industrious and wealthy nation in the world.

It is interesting to know what was the constitution of Egyptian society in these days of ancient glory. It was that of castes similar to what still exists in India. According to the best authorities, the first or chief caste was that of the priests, to whom the king necessarily belonged, as a species of pope or temporal head; the second was composed of the soldiers and agriculturists; the third of the artificers, tradesmen, merchants, builders, and professional men; and the fourth consisted of shepherds, fishermen, servants, and all other orders of common people. All the learning of a refined or metaphysical kind was confined to the order of priests, who were of various classes, each following its appointed duty; for example, each deity had its own order of priests, the judges and magistrates were also priests, as likewise were the sacred scribes, the officers who examined and set their seal on the sacrifices, the attirers of the statues of the gods, the keepers of the sacred robes, the doctors, the carriers of the sacred emblems in the processions, the bearers of the small statues, the preservers of the sacred animals, the sprinklers of water in the temples, the embalmers of bodies, the drivers away of flies from the countenances of the gods, and various other functionaries. Thus, the Egyptian priesthood, with the king at their head as a sort of deity, were a formidable body among the people, from the power with which they were invested and their number; and it need hardly be mentioned that they appropriated to themselves by far the largest share of all the good things with which the land abounded, or which the industry of the nation introduced from foreign countries. The enormous sums which must have been lavished by them in the erection of temples and palaces are beyond all calculation; and when we consider that this vast expenditure went towards the adoration of crocodiles, bulls, dogs, storks, snakes, and other animals, or at least of a tribe of gods whom these creatures were imagined to represent, we are overwhelmed with the magnitude of the superstition, and look upon the ancient Egyptians, with all their learning, as little advanced on the right road to civilisation.

A nation, however, as has been a thousand times proved, may have attained considerable proficiency in learning and the arts, and yet be affected by the most ridiculous superstitions. The Egyptians, as appears from hieroglyphics, paintings, and records of various kinds, were adepts at mechanical expedients, and possessed almost all the elegances of refined living which are now common in an improved form in Europe. In the construction of their pyramids and other large buildings, no degree of labour for any length of time seems to have intimidated them. The huge blocks of stone, sometimes weighing 1000 tons each, were dragged for hundreds of miles on sledges, and their transport, perhaps, did not occupy less time than a year; in one case which is known, 2000 men were employed three years in bringing a single stone from a quarry to the building in which it was to be placed. Usually, the sledges were drawn by men yoked in rows to separate ropes, all pulling at a ring fixed to the block. Where it was possible, the blocks were brought from the quarries on flat-bottomed boats on the Nile. But the transport of these large masses was much more easily accomplished than the placing of them in elevated situations in the buildings. They were raised by the power of levers and inclined planes at immense trouble and cost. One of the largest is the lintel over the doorway leading into the grand hall at Karnac; it measures 40 feet 10 inches long, and five feet square. It is understood that slaves or captives furnished a large share of the moving force in these undertakings; but besides these there were a variety of classes of workers, each carefully trained in the performance of his own particular duty; for instance, in dragging the blocks, there were employed slaves to pull, guards to watch, task-masters to regulate the operations, men with jars to throw water on the ground before the sledges, and, lastly, a person whose duty consisted in marking the time to the cadence of a song to ensure a simultaneous draught. This practice of shouting or singing to mark time during work, as still customary among sailors, is of extremely ancient date, being alluded to in the book of Jeremiah, xxv. 30:—"He shall give a shout as they that tread out the grapes."

The most extraordinary of the customs of this remarkable people was that of embalming their dead bodies with a view to perpetual preservation in the tomb. The business of embalming was very dignified, and was aided by a host of inferior functionaries who made and painted coffins and other articles which were required. The bodies of the poorer classes were merely dried with salt or natron, and wrapt up in coarse cloths, and deposited in the catacombs. The bodies of the rich and great underwent the most complicated operations, wrapped in bandages dipped in balsam, and laboriously adorned with all kinds of ornaments. Thus prepared, they were placed in highly-decorated cases or coffins, and then consigned to sarcophagi in the catacombs, or pyramids. Bodies so preserved have been called mummies, from the Arabian word *momia*, or the Coptic *mum*, signifying bitumen or wax. The quantity of mummies carried off in modern times to England, France, and indeed every European country, has been very considerable. The collection of them, and other Egyptian antiquities, in the British Museum, is very extensive.

MEHEMET ALI.—MODERN EGYPT.

Mehemet or Mahomet Ali, the modern reformer and pacha of Egypt, was born at Cavallo, in Roumelia, a part of European Turkey. His parents, who were of a humble condition of life, had a family of sixteen children, of whom he was the youngest; and being a greater favourite than his brothers and sisters, he in early life became accustomed to indulgences, and to be impatient of the control of superiors. His youth, it has been related, was partly spent in the service of a tobacconist; but leaving this employment, which was unsuitable to his genius, he entered the Turkish army as a common soldier, at a time when troops were raising in his native district. This was the sphere of life in which he was calculated to shine. Distinguishing himself as a soldier by his bold and skilful conduct, he soon attracted the attention of beys, pachas, and the sultan himself; and having attained a prominent position in the bloody wars that distracted Egypt under the Mamelukes, he rose to be Pacha, or Viceroy, of Egypt, one of the highest posts of honour in the whole Turkish empire. On getting the command of that province, he speedily showed that he was no ordinary man. He established a regularly paid, disciplined, and armed military force, on the European plan, instead of the irregular bands of men serving as soldiers in Egypt. The remnant of the Mamelukes, that remarkable body of men, which since the days of Saladin had practically governed Egypt by overawing the viceregal authority, he annihilated, and thus became the uncontrolled lord of the land of the Pharaohs, Ptolemies, Cæsars, and Caliphs. By the strictness of his government, he rendered Egypt as safe to travellers as any ordinary civilised country. Agriculture, commerce, manufactures, all engaged his attention; and though his reforms were accomplished with a despotic hand, perhaps with no small degree of cruelty, his conduct deserves our approbation. He may be crafty, cruel, and treacherous, still he has prodigiously advanced the cause of civilisation and improvement in Egypt, and opened the way for further and more important reforms.

Mehemet Ali has a family of several sons, the eldest of whom, Ibrahim Pacha, acts as commander-in-chief of his troops, and is understood to be of a less sagacious mind than his father. It is incontestible that Mehemet Ali has done much to further the advancement of civilisation in modern Egypt, but the whole of his efforts have at the same time tended to personal aggrandisement, and to the complete subjection of the people to his will. In order to maintain his authority, he raises troops from amongst the male population by the most tyrannical means; and so much is this forced military service detested, that great numbers of young men mutilate themselves, by destroying an eye or cutting off one or more fingers, in order to escape the conscription. Having been lately driven from Syria, with a prospect of being permanently confined to Egypt, it is likely that the pacha will relax the excessive military burdens of the people. In the meanwhile, his lust of conquest has led to the exaction of taxes to a degree altogether unheard of in any country laying claim to civilisation. "His revenue," says Mr Lane,* "is generally said to amount to about £3,000,000 sterling. Nearly half arises from the direct taxes on land, and from indirect exactions from the fellaheen (fellahs or agriculturists), the remainder principally from the custom-taxes, the tax on palm-trees, a kind of income tax, and the sale of various productions of the land [no one being permitted to export corn or cotton but himself]; by which sale, the government, in most instances, obtains a profit of more than fifty per cent. The present pacha has increased his revenue to this amount by the most oppressive measures. He has dispossessed of their lands all the private proprietors throughout his dominions, allotting to each, as a partial compensation, a pension for life proportioned to the extent and quality of the land which belonged to him. The farmer has, therefore, nothing to leave to his children but his hut, and perhaps a few cattle and some small savings.

The direct taxes on land are proportioned to the natural advantages of the soil. Their average amount is about 8s. per feddan, which is nearly equal to an English acre. But the cultivator can never calculate exactly the full amount of what the government will require of him: he suffers from indirect exactions of quantities (differing in different years, but always levied per feddan) of butter, honey, wax, wool, baskets of palm-leaves, ropes of the fibres of the palm-tree, and other commodities; he is also obliged to pay the hire of the camels which convey his grain to the government shooneh (or granary), and to defray various other expenses. A portion of the produce of his land is taken by the government, and sometimes the whole produce, at a fixed and fair price, which, however, in many parts of Egypt, is retained to make up for the debts of the insolvent peasants. The fellah, to supply the bare necessaries of life, is often obliged to steal, and convey secretly to his hut, as much as he can of the produce of his land. He may either himself supply the seed for his land, or obtain it as a loan from the government; but in the latter case he seldom obtains a sufficient quantity; a considerable portion being generally stolen by the persons through whose hands it passes before he receives it. It would be scarcely possible for them to suffer more, and live. It may be hardly necessary, therefore, to add, that few of the fellahs engage with assiduity in the labours of agriculture, unless compelled to do so by their superiors. The pacha has not only taken possession of the lands of the private proprietors, but he has also thrown into his treasury a considerable proportion of the incomes of religious and charitable institutions, deeming their accumulated wealth superfluous. He first imposed a tax (of nearly half the amount of the regular land-tax) upon all land which had become a *wuckf* (or legacy unalienable by law) to any mosque, fountain, public school, &c.; and afterwards took absolute possession of such lands, granting certain annuities in lieu of them, for keeping in repair the respective buildings, and for the maintenance of those persons attached to them, as nazirs (or wardens), religious ministers, inferior servants, students, and other pensioners." Mr Lane subsequently mentions, that sometimes the poverty of parents causes them to sell their children to any one who will purchase them, which presents a shocking idea of the degraded condition of the humble order of modern Egyptians.

In pursuing his schemes of improvement and family aggrandisement, Mehemet Ali acts as a despotic monopolist in all matters relating to both agriculture and commerce. He not only dictates what article of produce shall be cultivated, but the price at which it shall be sold. According to Dr Bowring, it appears that in 1834, the country produced about 500,000 quarters of wheat, 450,000 quarters of dourah, 400,000 of beans, 260,000 of barley, and 80,000 of maize. Of wheat, however, the produce sometimes rises to 1,000,000 of quarters. Dourah or Indian millet (*sorghum vulgare*) is used for bread by the fellahs or labourers. It is the same plant which is raised in the West Indies for food to the negroes, under the name of Guinea corn. Its price is 30 or 40 per cent. below that of wheat. The helbeh is a coarser seed, sometimes mixed with it. The average price of wheat is from 20s. to 27s. per quarter at Cairo, but in years of scarcity it rises to 60s. Egypt is generally an exporting country, but in 1837 it was forced to draw supplies from abroad. The cultivation of cotton was introduced by the pacha very recently, and succeeds well, the exports of this article in 1834 having been 200,000 cwts.; but as the government is the exclusive purchaser, and only gives what price it pleases, the fellahs would not raise it unless compelled by the despotic mandates of the pacha. He has endeavoured to

* Account of the Manners and Customs of the Modern Egyptians, 2 vols. 1836.

extend the cultivation of sugar, has introduced improved sugar-mills, and brought persons from the British colonies to distil rum. He has also invited Armenians from Smyrna and the East Indies, to teach his people how to cultivate opium and indigo, and prepare them for the market. There are about two millions of date trees in Egypt, each of which yields by its fruit from 8s. to 16s. per annum. A few attempts have been made to introduce the vine. Onions are still produced and consumed in prodigious quantities, as in the days of Herodotus. The pacha has established model farms, with improved ploughs, &c., but even his despotism cannot induce the people to abandon their ancient rude processes and implements.

The pacha is a great manufacturer. He has built large mills, and procured skilled workmen at a great expense from France, Italy, Germany, Belgium, and Britain, to conduct them. He has manufactories of cotton yarn and cotton cloth, woollens, carpets, ironware, muskets, cannon, bayonets, gunpowder, &c. All these establishments are believed to be attended with loss to his highness, and in some cases the loss is heavy. His spinning-mills for cotton are the most extensive of his manufactories. There are twenty-two of these, which, according to Dr Bowring, produce about 210,000 rottoli of yarn monthly, of various qualities, from coarse to "very fine." The Cairo rottoli is, we believe, just equal to the British pound, while the Alexandrian rather exceeds two pounds. The former, we suppose, is the weight alluded to in this instance; but as the cost of this yarn to the pacha is said to be only L.5270, we suspect there is some mistake in the statement. The men are paid fixed wages, generally about twopence per day, and they are punished with the lash for bad work or misconduct. The pacha has three manufactories of arms, which turn out 1600 muskets and bayonets per month. The largest one is managed by an Englishman, who has five other Englishmen and a number of Arabs under him.

All travellers represent Mehemet Ali as a person of plain and affable manners in private life, and fond of his family. Dr Bowring speaks of him as follows:—"Mehemet Ali was forty-six years old before he had learned either to read or to write. This he told me himself. I have heard that he was taught by his favourite wife. But he is fond of reading now; and one day, when I entered his divan unannounced, I found him quite alone, with his spectacles on, reading a Turkish volume, which he was much enjoying, while a considerable pile of books were by his side. 'It is a pleasant relief,' he said, 'from public business; I was reading some amusing Turkish stories' (probably the Arabian Nights); 'and now let us talk—what have you to tell me?' There is a great deal of sagacity in Mehemet Ali's conversation, particularly when he knows or discovers, as he usually does, the sort of information which his visitor is most able to give. He discourses with engineers about mechanical improvement—with military men on the art of war—with sea-officers on ship-building and naval manœuvres—with travellers on the countries they have visited—with politicians on public affairs. He very willingly talks of foreign countries, and princes and statesmen, and is in the habit of interlarding in the conversation short stories of anecdotes about himself, and the events connected with his history. His phrases are often poetical, and, like most Orientals, he frequently uses proverbs and imagery. I heard him once say, speaking of the acclimatisation of cotton in Egypt, 'When I came to this country, I only scratched the earth with a pin; I have now succeeded in cultivating it with a hoe; but soon I will have a plough passed over the whole land.'

Mehemet Ali's great pride is Ibrahim Pacha; a visit to whom is always the object of admiration among Mussulmans. And Ibrahim Pacha's existence is one of his father's military successes. His father's hand of iron in his bosom son and intended successor. 'I *know him*,' he said; 'I had not an unbounded *love for him*; I *fear him*; *many* years ago, not till he *was* [illegible] and, as I even changing its colour,' said the pacha to me; 'but now I thoroughly trust him.' On the part of Ibrahim there is always the utmost deference to Mehemet Ali. 'I have been very happy in my children,' Mehemet Ali said to me one day; 'there is not one of them who does not treat me with the utmost deference and respect.'"

Notwithstanding the improvements in education carried into effect by Mehemet Ali, the more opulent classes in modern Egypt are exceedingly ignorant. We learn from Mr Lane that "many of the tradesmen in Cairo can neither read nor write, or can only read what are obliged to have recourse to a friend to write their accounts, letters, &c.; but these persons generally cast accounts and make intricate calculations, mentally, with surprising rapidity and correctness." General learning is confined within very narrow limits. Very few persons "study medicine, chemistry, mathematics, or astronomy. The Egyptian medical and surgical practitioners are mostly barbers, miserably ignorant of the sciences which they profess, and unskilful in their practice, partly in consequence of their being prohibited by their religion from availing themselves of the advantage of dissecting human bodies. But a number of young men, natives of Egypt, are now receiving European instruction in medicine, anatomy, surgery, and other sciences, for the service of the government. Most of the Egyptians, in illness, neglect medical aid, placing their whole reliance on Providence or charms. Alchemy is more studied in this country than pure chemistry, and astrology more than astronomy. To say that the earth revolves round the sun, they consider almost heresy. Of geography, the Egyptians in general, with very few exceptions, the best instructed of whom, have scarcely any knowledge; having no maps, they are almost wholly ignorant of the relative situations of the several great countries of Europe. A few of the learned venture to assert that the earth is a globe, but they are opposed by a great majority of the Ulama. The common opinion of all classes of Moslems is, that the earth is an almost plane expanse surrounded by the ocean, which, they say, is encompassed by a chain of mountains called *Kaaf*." Notwithstanding the condition of general knowledge among the modern Egyptians, it does not surprise us to learn that they labour under the most ridiculous superstitions and believe in the powers of magic. Mr Lane observes of the people, among whom he lived for some years, that "their overreaching and deceitful disposition is evinced in their dealings by the manner in which they are ground under a rapacious and tyrannical system of government. By a singular contradiction in character, "they are remarkably honest in the payment of debts. Their prophet has declared, that martyrdom would not atone for a debt unsatisfied. Few of them ever accept interest for a loan of money, as it is strictly forbidden by their law."

Oppressed as modern Egypt is, it is gratifying to relate that it is improving in various respects in its condition. The pacha has introduced a number of intelligent Europeans into his military and civil service. Printing is now executed at Bulac, near Cairo, and presses have already produced more than a hundred different books in the Arabic language. For the use of military, naval, and civil servants of the government, A newspaper and an annual almanac are also regularly printed at Boulac. A considerable export and import trade is now carried on, the chief produce of the country being exchanged for the manufactured wares of cotton, silk, and other goods of Europe. The enormous material regeneration of Egypt is evinced by the regular arrival of steam-vessels at Alexandria from Marseilles, bringing hosts of European travellers and pleasure-seekers, reducing India by a journey from Cairo to Suez, and thence by steam-boats down the Red Sea to Bombay.

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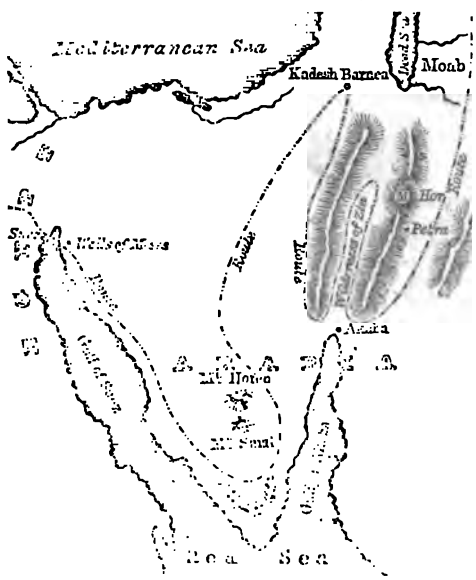
Jews are the most ancient race of mankind of ... we possess any regular or authentic history, or ... existence as a distinct people can be clearly traced ... the primeval ages till the present day. According ... accounts given of them in Scripture, and in their ... by Josephus, they were descended from Abra... a native of Arabia, and the tenth in descent from ..., through his third son Shem. According to ...ius, Abraham, who was born in the two hundred ...ety-second year after the Deluge, "left the land ...aldea (the south-east of Arabia) when he was ...y-five years old, and at the command of God ... Canaan, and therein he dwelt himself, and ... to his posterity. He was a person of great saga... both for understanding of all things and persuad... hearers, and not mistaken in his opinions; for ... reason he began to have higher notions of virtue ... others had, and he determined to renew and to ... the opinion all men happened then to have con... God; for he was the first that ventured to publish this notion, that there was but one God, the Creator of the universe; and that as to other gods, if they contributed any thing to the happiness of men, that each of them afforded it only according to his appointment, and not by their own power. For which doctrines, when the Chaldeans and other people of Mesopotamia raised a tumult against him, he thought fit to leave that country, and at the command of God he came and lived in the land of Canaan. And when he was there settled, he built an altar, and performed a sacrifice to God." Abraham spent the chief part of the remainder of his life in Canaan and Palestine; and dying at the age of one hundred and seventy-five years, was buried in the tomb of his wife Sarah, in Hebron. At his death, he left one legitimate son Isaac, who had two sons, Esau and Jacob.

After the death of Isaac, his sons divided their inheritance, and Esau departing from Hebron, "left it to his brother, and dwelt in Seir, and ruled over Idumea." Jacob remained for a number of years in Canaan, surrounded by a family of twelve sons, one of whom, Joseph, as related in Scripture, became the cause of the removal of his father and brethren, and all belonging to them, into Egypt. The emigrants were seventy in number, and formed at the first a respectable colony among the Egyptians, who gave them the name of "Hebrews," or "foreigners." Jacob died after having been seventeen years in Egypt, and his body was carried by Joseph to Hebron, and buried in the sepulchre of his father and grandfather. Joseph also died in Egypt at the age of a hundred and ten, and at length his brethren died likewise. Each of the twelve sons of Jacob became the progenitor of a family or tribe, and the twelve tribes, personified by the term ISRAEL, continued to reside in Egypt, where they increased both in number and in wealth. Their rapid increase and prosperity soon excited the jealousy of the masters of the country; and from being in high favour, the different tribes gradually fell under the lash of power, and came to be treated as public slaves. The Egyptian rulers enjoined them to cut canals in connection with the Nile, to build walls and ramparts for cities, to make bricks, and to perform other laborious offices. "And four hundred years did they spend under these afflictions; for they strove one against the other which should get the mastery, the Egyptians desiring to destroy the Israelites by these labours, and the Israelites desiring to hold out to the end under them." From the description of their situation which is given in Genesis, and the affecting allusions to it afterwards in different passages of the Psalms, it appears that their tyrannical masters viewed them with the most unjustifiable hatred, contempt, and fear. Their sufferings were at last avenged by a direct interposition of Providence, which visited their oppressors with successive plagues, storm, vermin, and pestilence, till every living and growing thing in the land of Egypt was threatened with destruction, and the selfish rulers

of the country were at last constrained by terror to release their injured bondsmen.

The entire body of Israelites, guided by Moses, fled from Egypt in the year 1490 before Christ, at a time when Thebes, Memphis, and the other magnificent cities of that country, were in all their glory. Proceeding in a north-easterly direction from Rameses (near the site of modern Cairo), they went through the flat region of the land of Goshen (now a barren sandy plain) to the head of the Gulf of Suez, the western branch of the Red Sea. Here they crossed in a miraculous manner to the opposite shore, to a spot now called the Wells of Moses, where, according to the Scripture narrative, they sang their song of thanksgiving for their deliverance. The country in which they had now arrived was a portion of Arabia Petræa, consisting of a dismal barren wilderness, now called the desert of Sinai, from the principal mountain which rises within it. From the point at which the Israelites had crossed the Red Sea from Egypt, they were conducted by a most circuitous and tedious route towards the Promised Land of Canaan, once the residence of their fathers. Their route (see annexed map) lay along the eastern



border of the Gulf of Suez to a point beyond Mount Sinai; then, turning, they proceeded northward as far as Kadesh Barnea; from that they turned again southward to near the head of the Gulf of Akaba; again, they bent their way northward through the wilderness of Zin to Mount Hor, where Aaron was buried. Being at this point refused a passage through the country of the Idumeans or Edomites, they retreated along the path by which they had entered the desert vale; and lastly issued upon the plains near the Gulf of Akaba, and compassing on the south the land of Moab, arrived at Gilgal in the Promised Land.* This painful and tiresome journey extended over a period of forty years, and was not completed till all the Hebrews who were above twenty years of age when they left the land of Egypt (excepting Caleb and Joshua) had died, and a new generation possessing greater courage and confidence in the Almighty had succeeded them. In the trackless wilderness through which they were led, their multitudes, as we learn from Scripture, could neither have traced their way nor procured subsistence, without a continued miracle. The hand of God brought for them streams of water out of the flinty rock; rained manna or bread from heaven; and gave a pillar of cloud to direct their journeys through the day, and a pillar of fire by He delivered the tables of a moral law, comprehe the ten commandments, to Moses their leader gave out a set of regulations for the ceremor worship, the establishment of a separate order d to religion and learning, and for the civil governm the nation. They had thus a regular polity and v laws, when most other nations knew only the law sword, or of savage animal superiority.

The country on the shore of the Mediterr which was allotted as a settlement to this peopl at that time occupied by many warlike tribes had grown strong in its fertile plains and valleys the generation of the Hebrews who were con into it were compelled to fight for its possession. struggle was not of long continuance. The arr the Ammonites and Canaanites were defeated on another in rapid succession; and the alarm whi deterred their fathers from making the attack, w transferred to their enemies, who feared it. T Israelites had said in the desert, "We are in ou sight as grasshoppers before these sons of Anak the Lord brought us out of the land of Egypt to the sword of this people?" But the new gene had a firmer confidence in the help which was pr them; and it was now the turn of their foes to s "insomuch that their hearts melted, neither wa spirit in them any more, because of the child Israel." The land was conquered in the year before Christ.

According to the account given in the 26th c of the book of Numbers, the Hebrew nation thus b out of the land of Egypt and settled in Canaan, amo to 601,730 souls, unto whom the land was divid an inheritance, according to the number of individ the respective tribes. The tribes, and their fi men above twenty years of age, were reckoned low:—Tribe of Reuben (the eldest son of Jacob) 4 Simeon 22,200; Gad 40,500; Judah 76,500; Is 64,300; Zebulun 60,500; Manasseh 52,700; Ep 32,500 (the tribes of Manasseh and Ephraim wer from Joseph); Benjamin 45,600; Dan 64,400; 53,400; and Naphthali 45,400. Among these tribes the land was divided. The tribe of L which belonged Moses, Aaron, and Eleazer th priest), amounting to 23,000 males from a mon and upwards, received no share of the land: bei apart for the priesthood, the tenth or tithe of the g produce was assigned them as their perpetual i tance. By making a special agreement with the tribes that they should assist them against the co enemy, the two tribes of Gad and Reuben, and th tribe of Manasseh, were permitted to appropriat for their inheritance in Gilead and Bashan, Arabian side of the Jordan.

Previous to the settlement of the tribes in C they were called together by Moses to receive his ing address, for it was ordained that he should not the land along with them. The account of this r rable assemblage is given in the first chapter of D roneay. Having first narrated the history of tedious journey in the wilderness, and its objects, proceeded to promulgate and explain to them, as lawgiver, the statutes and commandments for obedience, and the form of government, secula spiritual, which they should adopt. Among other t he recommended the erection of a capital city, the great temple should be, and to which the people should repair three times a-year, for the pu of offering thanks to God for his former benefit entreating him for those they should require here also with the view of maintaining a friendly corre dence among the various tribes and orders of p In obedience to this and subsequent injunction Israelites built Jerusalem, and established the t on Mount Zion within its walls. Moses, in concl his lengthened address to the people of Israel, s song of praise to God, breathing a spirit of the exalted piety (Deut. xxxii.), and bidding the sons

* An account of Arabia Petræa, through which the Israelites travelled, is given in the latter part of the present sheet.

tude adieu, proceeded alone to some secluded spot
land of Moab, where he died.
ses was succeeded by Joshua as a leader, and by
he Israelites were conducted across the Jordan.
olitical government of the various tribes, after
conquest and settlement of Canaan, appears to
been republican, with military leaders called
s; but these acted by the direction of the priest-
who were immediately counselled by the Deity
the sanctuary; the government of the Jews
has been called a *theocracy*, or government by

Their position, in the midst of hostile nations,
red constant vigilance. In the book of Judges,
d them at first under the command of Judah,
cessor of Joshua, and afterwards of Gideon, and
leaders. The instances of generous patriotism,
very, and of devout confidence in the God of their
rs, which are shown in the acts of several of the
s, render the record of their history one of the
interesting and romantic in the earth. Yet they
often reduced to the greatest distress. "Because
Midianites," it is said, "the children of Israel
them dens in the mountains, caves, and strong-
; and when Israel had sown, the people of the
ame up against them, and destroyed the increase
e earth, till they left no sustenance for Israel,
r sheep, nor ox, nor ass—for they came up as
rasshoppers for multitude; and the children of
cried to the Lord." From these calamities they
at times delivered by the devotion of some pas-
soldier among their tribes. Their songs of re-
g on such occasions still more pathetically tell
isturbed state of the country, and present the
les of its inhabitants for three hundred years
re Christ 1427 to 1112), while they formed a re-
e under their judges. It says much for this people,
in the midst of such a scene of unrest, they con-
d still to cultivate letters. The beautiful simpli-
of the narratives given concerning the heroes of
country, is not to be equalled in any other remains
tiquity.

e epoch of kings succeeded that of judges. The
of Saul, their first monarch, though the people
stronger by being united, was gloomy and troubled.
d, who succeeded, was a soldier and a conqueror.
endered the Hebrews formidable to the whole of
enemies, and gave them a regular and defensible
ion, expelling their old antagonists from every part
e country. He left an empire peaceful, respected,
strong; and, what was of as much importance, he
ted from among his sons a successor who was
to improve all these advantages, and to add to the
ess which his countrymen had already made in
erity. Under Solomon, the name of the Hebrew
nment being able to protect its subjects in other
ries, the people and their king began to employ
selves in commerce. Their trade was at first
ited on that of Tyre, a people speaking a similar
age with themselves, and like them, too (though
inly in a smaller degree), acquainted with the art
iting. We only find in Scripture an account of the
of commerce in Solomon's time; but there is no
n to suppose that after his day it was discontinued.
s, perhaps, no longer a matter of state; but the
h of the country, which exposed it to continued
e, and the number of prosperous Hebrews who
found in all parts of the earth (it would be idle to
nat these were all brought away as captives), render
hable that, from the splendid reign of this monarch,
always continued to be addicted to commerce. It
eed likely that they had been so before his reign,
hat Solomon merely took commerce under the pro-
n of the state; for there is no instance on record
y monarch all at once, successfully, creating
ional trade. However this may be, a greater con-
cannot be imagined than between the troubles of
ime of the judges (only one hundred years before),
the peace, security, and enjoyment of this reign.
d the king made silver to be in Jerusalem as stones;
and cedars made he to be as sycamore trees that are
in the vale for abundance; and Judah and Israel were
many; as the sand which is by the sea-shore for multi-
tude, eating, and drinking, and making merry." The
riches lavished upon the temple, which was erected in
his time, are still the wonder of the east and west; and
though the building itself may now be rivalled in extent
by many of our parish churches, yet the gold, ivory,
and other precious materials employed in its decora-
tion, indicate a wealth which must, at that time, have
been without a parallel. Both Solomon, and David
his father, were men accomplished in learning, as well
as in the arts of government; and the writings which
they have left, if they show their own abilities, indicate
not less a great attention to the cultivation of knowledge
among the rest of the Hebrews.

After the death of Solomon, the country fell into the
same divisions which had weakened it in the time of
the judges. Each of the districts of North and South
Israel was under a separate king, and the people were
exposed both to the attacks of their enemies and to
quarrels with each other. Their history is a succession of
agitating conflicts for independence, and of unexpected
and remarkable deliverances, of a similar nature to
those of the earlier period, and they continued for about
the same length of time (380 years); but they are
marked by fewer of those traits of heroic devotion which
distinguished the epoch of the judges. The backslid-
ings, errors, and misgovernment of their kings, is the
chief and painful subject which is presented to us; and
though these are relieved at times by the appearance
of such monarchs as Josiah, Jehoshaphat, and Heze-
kiah, yet the whole history of this period is overcast
with the gloominess of progressive decline. By far the
most delightful parts of it are those which relate to the
lives of the prophets, who were raised up at intervals
to warn the nation and its rulers of the fate which they
incurred by forsaking the religion of their fathers.
These inspired men sometimes sprang up from among
the humblest classes of the community; one from "the
herdsmen of Tekoa," another from "ploughing with
twelve yoke of oxen;" several were of the priestly
order, and one (Isaiah) is said to have been of royal
lineage; but the works of all are marked with the same
sacredness, force, and authority. They reprehend their
countrymen, in the most eloquent strains, at one time
for their idolatry, and at another for their hypocrisy;
and their indignation is expressed with the same free-
dom and dignity against the vices of the highest and
the lowest. It has become fashionable to trace the free
spirit of our national tone of thinking to the historians
and orators of Greece and Rome, which are taught in
our schools; but any one who looks into the writings of
the Hebrew prophets, and sees the boldness and energy
with which the humblest of them threatens the nobles
and princes of his country, or chastises the vices of the
nation around him, will remark the pedantry of seeking,
in volumes known only to the learned, for an effect
which may be traced to books whose strong and pathetic
eloquence has long swayed the affections of every peas-
ant of the country. There is no subtlety of reasoning,
no sporting with ambiguities in these writings; every
thing is bold, decided, and powerful, appealing to great
principles, and marked with high and energetic feelings.
What a film of fancy-work are the metaphysical inge-
nuities of Plato, compared with the firm, broad, and
uncompromising morality, the mild domestic charities,
taught in the books of Psalms and Proverbs, or the pa-
thetic and indignant remonstrances of the prophets
against the backslidings of the "daughter of their
people!"

At the end of the epoch of the kings (about 600
years before Christ), the land of Israel was swept by
several powerful invaders, who carried off many thou-
sands of the people into captivity. Little is known of
the fate of those of the northern district, who are by
some supposed to have been carried to India, by others
to Tartary; but there are many interesting notices of
the captives of Judah. These were carried to Babylon,

a flat country intersected by rivers, to the eastward of their own. Here they seem to have been treated with kindness, and many of them even arrived at wealth and distinction. Nothing, however, could overcome their regret at being torn from the country of their ancestors —a feeling which is expressed with unrivalled beauty in the 137th Psalm, where the Hebrew captive looks back mournfully to the mountains and brooks of Judah, as he hangs his harp on the willows by the sluggish Euphrates, and refuses, with sorrow and scorn, to gratify his conquerors by singing the celebrated songs of his country in a strange land. It is a further proof of what we have said of the general intelligence and education of the Jews, that all the conquerors who carried them off granted them high privileges in their new countries. Alexander, it is said, made them equal with his own Macedonians in the city which he founded; Ptolemy conferred on them similar privileges. We find one celebrated man of their nation (Daniel) chief minister of two successive monarchies.

After seventy years (during which there is little recorded of the people who were left in the country), permission was given to some of the chief Hebrews of the captivity to return with their people to Judea, and to establish there a government, conducted by their own countrymen, under the protection of the Persians. They were also allowed to rebuild the temple. Many families returned accordingly; and the Hebrews from this period enjoyed, as tributaries of this powerful monarchy, a peace of about 220 years, during which their country seems to have been quiet and prosperous. About 187 years before Christ, in consequence of their becoming involved in the quarrels of neighbouring powers, they were obliged to maintain a series of struggles in behalf both of their religious and national independence, more fierce and prolonged than we read of in almost any other nation. We are accustomed to admire the gallantry and perseverance of Wallace and of William Tell in behalf of their country; but Judas Maccabeus surpassed both, and with more brilliant success. The actions of one family of Jewish priests, belonging to a town (Modin) of which the very site is unknown, might dignify the scutcheons of a whole aristocracy. Under them the Hebrews were again, for three reigns, an independent and even a powerful people.

The empire of the Romans was now extending itself to the east; and that power, being called in to aid the Hebrews on one occasion (about seventy years before Christ), seized the opportunity to establish its influence among them permanently. Their kings, the three Herods, and their other rulers, were now dependants of the emperor, and their country the tributary of Rome. On obtaining full possession of the country, the Romans divided Palestine (the region between the Mediterranean and the Jordan) into three tetrarchies or provinces—Judea, Samaria, and Galilee. It is creditable to the Romans, however, that while thus taking complete political possession of the ancient land of Israel, they in no respect interfered with the religion or other usages of the people, which they left under the direction of the sanhedrim and elders as of old. But notwithstanding this favourable arrangement, the Jewish nation was restless and unhappy; it was broken up into parties and sects, and some of these continually plotted schemes for a restoration of independence. The country was in this humbled and distracted condition when "Jesus was born in Bethlehem of Judea, in the days of Herod, the king." This most important of all events, which occurred in the reign of the Emperor Tiberius, and marks the commencement of our era, made no difference politically in the condition of the Jewish people. During the continuance of Christ on earth, we do not read of any civil war in Palestine; but between thirty and forty years afterwards, serious insurrections broke out against the Roman authority, and the country was exposed to the greatest sufferings. In the year 70, Titus took Jerusalem by assault, burned the temple, and sold into slavery, or drove into exile, all the inhabitants who escaped death. About 11(Jews perished during the siege and at the destru of Jerusalem.

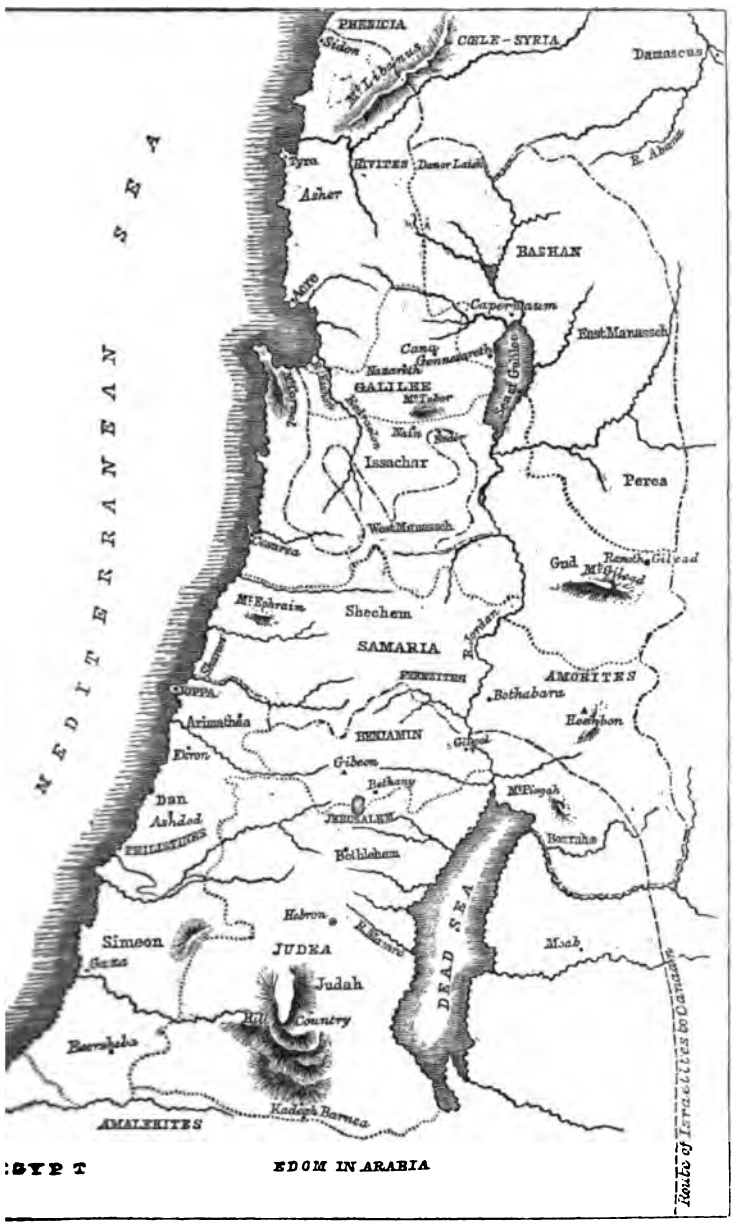
Reckoning from the settlement of Canaan by Israelites till this last dire calamity, the Jewish n existed in a regular form, though under various n fications, for 1560 years. Since they were first scatt over the face of the earth, in which condition they exist, 1770 years have elapsed (reckoning till 184(that they have already been longer a scattered they were a united people. By a late calculation, ascertained that the Jews now existing in diff parts of Europe amount to 1,918,053; in Asia 738, in Africa 504,000; in America 5700; and in New land 50—grand total 3,218,000. Other estimates c the number to 5,000,000 or even 6,000,000. In countries they are still treated as strangers, and d the rights of citizenship, though in manners, langu and general conduct, they do not differ from the mon inhabitants. The government of the United S of North America was the first which placed them the same political level with other citizens. recently, the laws excluding them from civil privil have been one after another abolished in the king of the Netherlands, until they are now in all res on an equality with the other people of that cou There is, we believe, evidence of the most incontro tible nature, namely, statistical evidence, to show crime has diminished among the Hebrews, as invid distinctions have been thus done away with.

For a period of upwards of 200 years after the dispersion of the nation, Palestine continued in a serable condition. On the conversion of the Rom to Christianity, it became an object of religious v ration, as the scene of the ministrations of Christ his apostles. The Empress Helena repaired in pi mage to the "Holy Land," viewed all the spots rend remarkable by events in the gospel history, and l splendid temples, or other religious structures, on t sites. The Holy Land was now enriched by the crow pilgrims who came from all parts of the Christian w The destinies of Judea, however, were changed the invasion of the fanatical followers of Mahon in the sixth century, and soon fell under their s The caliphs, or Arabian monarchs, indeed, still vie her holy places with reverence, and were induce encourage pilgrimage, from the gain which it affor But when the Turks, an ignorant and barbarous r poured in from the north, the same courtesy was longer observed. They profaned the holy places, committed outrages of every kind upon the visitant the Holy Land. The pilgrims on their return rel the dangers they had encountered. These represe tions kindled the religious zeal of the Christians Europe into a flame, and a general ardour was a kened to "free the holy sepulchre from thrall." ensued a series of warlike expeditions, termed crusa for the recovery of Palestine from the Mahommed After various successes and disasters, the crusades minated in the middle of the thirteenth century, leav the Holy Land still in the possession of a barbar Mahommedan people. (See article History or Middle Ages.) In the year 1517, Palestine was nexed to the Turkish empire, and still remains a tion of Turkey in Asia. As such, it belongs to pachalik of Damascus, and is (or was lately) under jurisdiction of Mehemet Ali, the pacha of Egypt, whose firm though precarious government it has b rendered much more safe to the visits of travell than it was in past times. Its population now cons of a mixture of Turks and Arabs, chiefly the lat with a small number of Jews and Christians.

PALESTINE.

Palestine, or the Land of Canaan, in which Israelites settled after their protracted wanderings the deserts, is a small country, forming part of Sy (which is a modern name for an indistinct portion north Arabia), and lies on the shore of the Medit

an Sea, between the 31st and 34th degrees of north latitude. With the whole of Arabia behind it, it may escribed as a frontier border to that extensive pastoral region. Lying with the Mediterranean (anciently Great) Sea on the west, it has Asia Minor (including Phrygia, Pamphylia, and Phœnicia) on the north, bia on the east and south-east, and Idumea or Arabia Petræa on the south. The part of Arabia g nearest to it on the east comprises the districts anciently called Mesopotamia and Babylonia, beyond ch, in an easterly direction, is Persia. The country has been called Palestine, as is supposed, from the Philistines, who were once its possessors; but in the Scriptures, from various circumstances, it has received the appellations of the "Promised Land," "the Land of Canaan," and "the Land of Judea." In modern times, from its connection with the events which occurred within it upon the promulgation of Christianity, it is more generally called "the Holy Land."



Palestine extends from north to south a length of three hundred miles, and about 50 in breadth, and is, therefore, in point of size, of nearly the same extent as Scotland. The general character of the country is that of a hilly region, interspersed with moderately fertile vales; and being thus irregular in surface, it possesses a number of brooks or streams, which, for the most part, are swollen considerably after rains, but are almost dry in the hot seasons of the year. The longest and principal valley is in the centre, in a direction from north to south, and in this flows the river Jordan, which is the chief of the Judean streams. It arises from the outskirts of the mountains of Lebanon or Libanus on the north, flows into the lake of Tiberias, or sea of Galilee, and thence continues its course to the Dead Sea, from which there is no perceptible outlet, the water probably waning by means of evaporation. The present condition of Palestine scarcely corresponds with its ancient fertility. This is chiefly attributable to the devastating effects of perpetual wars, and some

ical changes have also contributed to the destruction of agricultural industry. Yet, after all, so excelwould the soil appear to be, and so ample its natural resources, that Canaan may still be characteras a land flowing with milk and honey. Its pastures are extensive, and of the richest quality; and the rocky stry is covered with aromatic plants, yielding to the wild bees who live in the hollow of the rocks such an ndance of honey, that the poorer classes use it as a common article of food. Dates, which are found springup in the midst of the most arid districts, are also another important article of consumption. If to these add olive oil, an article so essential to an oriental, the ancient fertility of even the most barren part of in becomes easily accounted for. Delicious wine is still produced in some districts, and the valleys r plentiful crops of tobacco, wheat, barley, and millet. Among other indigenous productions may be mented the cedar and other varieties of the pine, the cypress, the oak, sycamore, mulberry-tree, fig-tree, willow, acacia, aspen, arbutus, myrtle, tamarisk, oleander, oshar, doom, the turpentine, almond, peach, ne and locust trees; the mustard plant, aloe, citron, apple, pomegranate, and many flowering shrubs. Other

indigenous productions have either disappeared, or are confined to circumscribed districts. Iron is found in the mountain-range of Libanus, and silk is produced in abundance in the plains of Samaria.

Generally speaking, the climate is mild and salubrious. From May to August the sky is clear and cloudless, but during the night there falls a copious dew, which moistens the soil. Intensely cold nights, however, frequently succeed to very sultry days—a vicissitude more than once referred to in Scripture. Rain falls in sufficiency during the rest of the year, to which, in the absence of springs, the fertility of Palestine is mainly attributable. As the streams pour in impetuous torrents through the vales after heavy rains, it is unsafe to erect habitations on the plains, and such most probably is the reason why the towns and villages of Palestine are almost uniformly built upon elevated grounds.

Of the animals which prevail, or formerly prevailed, in Palestine, it is unnecessary to say much. The wild animals referred to in Scripture, such as the lion, wolf, leopard, &c., have almost totally disappeared. The fox is still common. The horse does not appear to have been adopted till after the Babylonish captivity, the wild ass being deemed worthy of serving even royalty. The breeds of cattle reared in Bashan and Gilead were remarkable for their size, strength, and fatness; but this is far from being the case now. The vulture, falcon, jackdaw, nightingale, field-lark, goldfinch, partridge, quail, and the quail of the Israelites, the turtle and ringdove, are found, and various kinds of land and water game are abundant. The Holy Land is infested with a frightful number of lizards, different kinds of serpents, vipers, scorpions, and various insects. Flies of every species are also extremely annoying. Ants are very numerous in some parts: one traveller describes the road from El Arisch to Jaffa, as, for three days' journey, one continued ant-hill. But these creatures, numerous as they are, are harmless in comparison to the locusts which overspread the country. These insects sometimes come in flights, which, on alighting, cover the land, and destroy every blade of herbage in their way. To oppose their destructive ravages, the inhabitants attack them with fire and branches of trees, and endeavour, by every other means, either to kill them in masses or to cause them to take to flight. It is not uncommon for an army of soldiers to be sent out to assist in slaughtering or expelling them from the land.

Travellers usually reach Palestine from Europe by sea, few daring to encounter the danger of the route from Egypt, through the land of Edom. Vessels from Malta or Alexandria regularly proceed to Acre, and from that port the traveller journeys to Jerusalem and other parts of the country. The most interesting route seems to be, in the first place, southwards, along the coast to Jaffa, Ashdod, Ashkalon, Gaza, &c., and then striking inland to Jerusalem, Bethlehem, and the Dead Sea; proceeding afterwards in a northerly direction to Tiberias, Nazareth, and Lebanon; lastly, before leaving Syria, making a journey to the ruined city of Palmyra, and to Damascus. In visiting these and other places mentioned in Scripture, the traveller is scarcely [illegible] much shocked with the changes produced [illegible] and localities, by the hand of [illegible] that of over-rigorous Christians. By the Crusaders [illegible] and other individuals, convents, churches, [illegible] have been erected over almost every [illegible] sacred by the ministrations of our Lord, [illegible] original character of the principal [illegible] the New Testament is altogether destroyed.

ACRE—ITS HISTORY.

Acre stands close to the sea, and the chief part of it, extending in the form of a [illegible] miles to the north of Mount Carmel, which [illegible] the sea-shore. It was originally called Accho, and is [illegible] luded to in sacred writ: of this name Acre is evidently corrupted. Its name is usually preceded by the words "St Jean," in consequence of the place h[illegible] been given by Richard of England to the Knigl[illegible] St John of Jerusalem; at one time it receive[illegible] name of Ptolemais. This place was visited b[illegible] apostles, and particularly by St Paul. It has bec[illegible] scene of a variety of bloody contests, especially d[illegible] the period of the Crusades, and was the last place[illegible] which the Christians were driven. The Turks ultim[illegible] laid hold of it with a numerous army, after a fu[illegible] siege, when terrible outrages were committed. [illegible] were in possession of it from 1291, till compell[illegible] surrender it to Mehemet Ali, who in his turn has[illegible] obliged to give it up to the Turks, by the warlike[illegible] rations of the European powers in 1840. As Ac[illegible] reckoned the key of Syria, and has the best por[illegible] French under Bonaparte made violent efforts to [illegible] it; they were, however, as is well known, success[illegible] repelled. Acre is very strongly fortified, being [illegible] enclosed with high walls, and is considered the stro[illegible] place in Syria. The houses are of stone, with [illegible] like terraces, the entrances to which are narrow[illegible] many appear to communicate with each other. [illegible] streets are dirty, and so contracted, that there [illegible] more than room for a loaded camel to pass a[illegible] hence the air is very impure. The bazaars are r[illegible] and the inhabitants miserable. The populati[illegible] reckoned to be about 10,000.

Mount Carmel forms a promontory, or majestic l[illegible] land, on the Mediterranean. It runs from east to [illegible] and rises about 2000 feet from the level of the se[illegible] which its base is washed. Near it runs Kishon, o[illegible] the rivers which are particularly alluded to in the s[illegible] writings. Carmel is the most beautiful mountai[illegible] Palestine; is of great length, and in many parts cov[illegible] with trees; and a part of its summit is pointed o[illegible] the place where Elijah prayed for rain, and saw[illegible] humid cloud rise out of the sea. On the 20th of [illegible] the Christians proceed to perform acts of devoti[illegible] memory of the prophet. There was formerly a mo[illegible] tery here, but it is now abandoned.

Between this point and Jaffa we meet with the [illegible] of several ancient villages and towns, amongst whi[illegible] Cesarea. "Perhaps there has not been," says[illegible] Clarke, "in the history of the world, an example of [illegible] city that in so short a space of time rose to suc[illegible] extraordinary height of splendour as did this of Ces[illegible] or that exhibits a more awful contrast to its fo[illegible] magnificence, by the present desolate appearance [illegible] ruins." In fact, not a solitary inhabitant remains w[illegible] once stood the proud city of Herod. Its theatre[illegible] palaces, and temples, form a marble desert.

A large part of this now desolate territory—th[illegible] from Carmel to Jaffa, an interval of about sixty [illegible] —is the plain of Sharon, celebrated in Scripture f[illegible] beautiful flowers and fertility, particularly its "r[illegible] of which distinct mention is made. In the present [illegible] though in a wild condition, it still yields pomegran[illegible] oranges, figs, and other eastern fruits.

Jaffa, which is near the southern extremity of the p[illegible] of Sharon, and is the Joppa of Scripture, is situate[illegible] a cliff, to command over-hanging the Mediterranean. [illegible] is one of the most ancient seaports in the world, [illegible] a place of considerable traffic it is now ne[illegible] from Carmel to Jaffa, an interval of about sixty [illegible] —is the plain of Sharon, celebrated in Scripture f[illegible] beautiful flowers and fertility, particularly its "r[illegible] of which distinct mention is made. In the present [illegible] though in a wild condition, it still yields pomegran[illegible] oranges, figs, and other eastern fruits.

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ASHDOD, GATH, ASHKELON, AND GAZA.

At about an hour's journey south from Jaff[illegible] [illegible] ancient Ashdod, standing on the sum[illegible] [illegible] gravelly hill, but now in a changed condition.

ruined village of Tookrair, situated also on the top of a hill, occupies the site of Ekron, which does not possess the smallest vestige of its former grandeur. Gath, a place of strength in the time of the prophets Amos and Micah, is now also either entirely gone or degenerated to a few ruins and a hamlet. Askelon, farther on to the south, and likewise situated on the summit of a hill at the distance of three miles from the sea, still, to external appearance, maintains something of its ancient character. Its position is strong, and its walls, which are of great thickness, and considerable height, are built on the top of a ridge of rock, winding round the town in a semicircular direction, and terminating at each end in the sea. But, alas! they enclose not a living being. How truly has been fulfilled the prophecy of Zachariah, "The king shall perish from Gaza, and Askelon shall not be inhabited." Gaza is truly without a king. It is now only a large village, situated a few miles south from Askelon, with a number of poor narrow streets. There is some trade, however, carried on in Gaza, particularly in cotton, and the inhabitants exceed 2000. This place was formerly of great magnificence and strength; for two months it baffled all the efforts of Alexander to take it.

Such are the chief places along the coast from Jaffa to the southern boundary of Palestine. We now take the route inland from Jaffa to Jerusalem.

JAFFA TO JERUSALEM.

About nine miles from Jaffa stands Ramla, or Rameli, the ancient Rama of Ephraim, and very probably the Arimathea of the New Testament. It is situated in a rich plain, and contains about 2000 families. Here there are several convents and mosques; and on a hill to the west of the town stands a venerable ruin, called the Tower of the Martyrs, a name probably derived from the martyrs of Sebastia, in Armenia, whose bodies have been here deposited. About a league from this is Lydda, still called Loudd, where St Peter cured Æneas of the palsy. This place is now a poor village, with few inhabitants. The country which surrounds it, however, is of a rich and fruitful soil. Farther on is the Arab village of Bethoor, supposed with much probability by Dr Clarke to be the Bethoron of Scripture. We enter now into the country of Judea. It is very mountainous; "and its scenery," says Dr Richardson, "brought strongly to my recollection the ride from Sanquhar to Leadhills, in Scotland; and to those," he continues, "who have visited this interesting part of my native country, I can assure them the comparison gives a favourable representation of the hills of Judea." He goes on to say, that the great difference lies in the contrast which the countries present in the character of their roads and inhabitants, those of Palestine being of the very worst description. Among the places of note which lie in the route to Jerusalem, is Modin, well known as the site of the city and tombs of the illustrious and patriotic Maccabees. It is still a place of strength, and goes by the same name. As the road approaches Jerusalem, the vegetation becomes exceedingly scanty, and the country has a bare, rocky, and rugged appearance.

JERUSALEM.

Jerusalem—the city of Zion—the ancient capital of Judea, is situated on the western slope of a rocky hill, at the distance of about forty-five miles eastward from the shore of the Mediterranean. In the present day, it cannot be said to possess any resemblance to its condition in the period of its ancient glory, for the repeated sackings by Persians, Romans, Saracens, and other warlike intruders, also the changes it underwent at the period of the crusades, have obliterated all its original structures; and it now exhibits the external aspect of a Turkish city, with round topped edifices and mosques, and environed with a wall for its defence. It is now only between two and three miles in circuit, and can be walked round in forty-five minutes. The town is built irregularly, somewhat in the form of a square, has pretty high walls, and six gates, which still bear Hebrew names. The houses are of sandstone, three stories high, and without windows in the lower story. This lifeless uniformity is only diversified here and there by the spires of the mosques, the towers of the churches, and a few cypresses. The population has been variously estimated at from 20,000 to 25,000. "It can hardly," says Mr Carne, in his letters from the East, "exceed 20,000; 10,000 of these are Jews, 5000 Christians, and the same number Turks. The lower division of the city," he continues, "towards the east, is chiefly occupied by the Jews: it is the dirtiest and most offensive of all. Several of this people, however, are rather affluent, and live in a very comfortable style; both men and women are more attractive in their persons than those of their nation who reside in Europe, and their features are not so strongly marked with the indelible Hebrew characters, but much more mild and interesting. But few passengers in general are met with in the streets, which have the aspect, where the convents are situated, of fortresses, from the height and strength of the walls the monks have thought necessary for their defence. Handsomely dressed persons are seldom seen, as the Jews and Christians rather study to preserve an appearance of poverty, that they may not excite the jealousy of the Turks. The women, in their close veils and white dresses, look like walking corpses. The streets are unpaved, and filled either with heaps of dust or with mire. Nothing is to be seen but veiled figures in white, insolent Turks, and stupid or melancholy Christians." Weavers and slipper-makers are the only artisans. A multitude of relics, which are probably not all manufactured in the city, but are sent in also from the neighbourhood, are sold to the credulous pilgrims. Nevertheless, this city forms a central point of trade to the Arabians in Syria, Arabia, and Egypt. The people export oil, and import rice by the way of Acre. The necessaries of life are in profusion, and quite cheap, the game excellent, and the wine very good. The pilgrims are always a chief source of support to the inhabitants; at Easter they often amount to 5000. But few of them are European. Jerusalem has a governor, a cadi or supreme judge, a commander of the citadel, and a mufti, to preside over religious matters. The citadel, which is pretended to have been the castle of David, is a Gothic building throughout. It is called the Pisan Tower, probably because it was built by the Pisans during the crusades. All the pilgrims go to the Franciscan monastery of the Holy Saviour, where they are maintained a month gratuitously. Besides this, there are sixty-one Christian convents in Jerusalem, of which the Armenian is the largest. They are supported by benevolent contributions, principally from Europe, and form the only place of residence for travellers.

Jerusalem is esteemed by Mahommedans as a holy city, though not to the extent it is by Christians; they have here a temple or mosque, called the Mesque of Omar, which is on a scale of extraordinary magnificence, and contains a stone supposed to be of miraculous origin. Jerusalem, however, is chiefly of importance to the Turks, from the revenue which is derived from the Christian pilgrims. The spot to which all Christians first direct their attention, is that on which took place the crucifixion and burial of our Lord, now marked by

The Church of the Holy Sepulchre.

Mount Calvary, the spot on which the crucifixion of Christ took place, was originally a rising ground without the walls, but was afterwards enclosed within the city, altered entirely in its outlines, and made the site of a church founded by the Empress Helena. This Church of the Holy Sepulchre, as it is called, is about one hundred paces in length, and sixty in width. It is in the form of a circle, having a heavy dome or cupola, the frame of which is made of the cedars of Lebanon, and covered with a kind of stucco. It has a spacious and magnificent appearance, the Corinthian order of architecture prevailing. The present building is not altogether old. A

fire which occurred in 1808, destroyed a considerable portion of the edifice, and the present structure has been completed in the original style chiefly at the expense of the Greek religionists, who hence possess the best part of the edifice for their religious services, greatly to the distress of the Romish clergy. None of the Protestant churches takes any charge of the place. Carne gives us the following account of his visit to the church:—

"There was a guard of Turks in a recess just within the door, to whom every pilgrim is obliged to pay a certain sum for admission; but we were exempted from this tax. In the middle of the first apartment is a large marble slab, raised above the floor, over which lamps are suspended: this is said to be the space where the body of the Redeemer was anointed and prepared for the sepulchre. You then turn to the left, and enter the large rotunda, which terminates in a dome at the top. In the centre of the floor stands the holy sepulchre: it is of an oblong form, and composed of a very fine reddish stone brought from the Red Sea, that has quite the appearance of marble. Ascending two or three low steps, and taking off your shoes, you enter the first small apartment, which is floored with marble, and the walls lined with the same. In the centre is a low shaft of white marble, being the spot to which the angel rolled the stone from the tomb, and sat on it. You now stoop low to enter the narrow door that conducts you to the side of the sepulchre. The tomb is of a light brown and white marble, about six feet long and three feet high, and the same number in breadth, being joined to the wall. Between the sepulchre and the opposite wall the space is very confined, and not more than four or five persons can remain in it at a time. The floor and the walls are of a beautiful marble; the apartment is a square of about seven feet, and a small dome rises over it, from which are suspended twenty-seven large silver lamps, richly chased and of elegant workmanship—presents from Rome, of the courts and religious orders of Europe: these are kept always burning, and cast a flood of light on the sacred tomb, and the paintings hung over it, one Romish and the other Greek, representing our Lord's ascension, and his appearance to Mary in the garden. A Greek or Romish priest always stands here with the silver vase of holy incense in his hand, which he sprinkles over the pilgrims.

Wishing to see the behaviour of these people, who come from all parts of the world, and undergo the severest difficulties to arrive at this holy spot, we remained for some time within it; and the scene was very interesting. They entered: Armenians, Greeks, and Catholics, of both sexes, with the deepest awe and veneration, and instantly fell on their knees; some, lifting their eyes to the paintings, burst into a flood of tears; others pressed their heads with fervour on the tomb, and sought to embrace it; while the sacred incense fell in showers, and was received with delight.

In an apartment a little on the left of the rotunda, and paved with marble, is shown the spot where Christ appeared to Mary in the garden. Near this begins the ascent to Calvary, which consists of eighteen very lofty steps; you then find yourself on a floor of beautifully variegated marble, in the midst of which are three or four slender white pillars of the same material which support the roof, and separate the Greek division of the spot from that appropriated to the Catholics; these pillars are partly shrouded by rich silk hangings. At the end stand two small and elegant altars; over that of the Catholics is a painting of the crucifixion, and over the Greek is one of the taking down the body from the cross. A number of silver lamps are constantly burning, and throw a rich and softened light over the whole of this striking scene.

The street leading to Calvary has a long and gradual ascent; the elevation of the stone steps is above twenty feet; and if it is considered that the summit has been removed to make room for the sacred church, the ancient hill, though low, was sufficiently conspicuous. The very spot where the cross was fixed is shown; it is a hole in the rock, surrounded by a silver rim, and each pilgrim prostrates himself, and kisses it with the greatest devotion. Its identity is probably as strong as that of the cross and crown of thorns found a few feet below the surface; but where is the scene around or within the city that is not defaced by the sad inventions of the fathers?"

The priests connected with these sacred places keep up a system of religious ceremonies, in some of which it would be impossible to say whether solemnity, fervour, superstition, ignorance, or sheer madness, most predominates. The ceremonies which take place during the season of Easter are ridiculous and absurd in the extreme. Upon Good Friday night the monks enact a sort of drama of the death of our Lord, in which they severally perform the various characters, such as Joseph of Arimathea and Nicodemus. They have a figure of Christ as large as life nailed to a cross, which they carry before them in solemn procession. No circumstance in the awful tragedy is omitted, from the singing of the hymn to the anointing of the body for burial, and its deposition in the sepulchre. The transactions of Easter day partake more of comedy than tragedy. It is a scene of superstitious riot and pitiful absurdity, which we think it unnecessary to describe. The reader may have some idea of it by imagining to himself what would be the consequences if bedlam were let loose upon the holy sepulchre. It is only doing justice, however, to those who have the keeping of the "place where our Lord lay," to observe, that some of the ceremonies are both solemn and impressive, without much admixture of absurdity. It is impossible, however, to read the exhibitions of Easter day and eve, without a painful misgiving as to every thing connected with the holy city.

Mounts Zion and Moriah.

On crossing the small ravine which divides the modern city from Mount Zion, the attention is attracted to three ancient ruins, covered with buildings comparatively modern—said to be, respectively, the house of Caiaphas, the place where Christ held his last supper, and the tomb or palace of David. The first of these is now a church, the services of which are performed by the Armenians: the second presents a mosque and a Turkish hospital; while the third, a small vaulted apartment, contains only three sepulchres, formed of dark-coloured stone. This holy hill is equally celebrated in the Old Testament and in the New. Here the successor of Saul built a city and a royal dwelling; here he kept for three months the ark of the covenant; here the Redeemer instituted the sacrament, which commemorates his death; here he appeared to his disciples on the day of his resurrection. The place hallowed by the last supper, if we may believe the early fathers, was transformed into the first Christian temple the world ever saw, where St James the Less was consecrated the first bishop of Jerusalem, and where he presided in the first council of the church. Finally, it was from this spot that the apostles, in compliance with the injunction given them, went forth to teach all nations.

A shallow vale, called the valley of Millo, separates Mount Zion from Mount Moriah, on which the temple stood; this was originally an irregular hill, separated from Mount Zion and Acra, as well as from Beretha. For the purpose of extending the appendages of the temple over an equal surface, and to increase the area of the summit, it became necessary to support the sides, which formed a square, by immense works. In order to connect it with Mount Zion, it was necessary to throw a bridge across the valley of Jehoshaphat. According to Josephus, the execrable but magnificent monarch Herod rebuilt the second temple; but there is reason to suppose that he only added considerably to its extent. Its fate is well known: the prediction of our Saviour, that one stone should not be left upon another, was literally fulfilled. After the Caliph Omar took Jerusalem, buildings were erected on the spot where Solomon's temple stood, the rock was enclosed with walls, and, by subsequent additions and embellishments, it became the splendid mosque which we have already described.

Leaving the city at the gate of St Stephen, the pilgrim is conducted to the spot nearly contiguous where it is supposed he suffered martyrdom. He is then shown the church of the sepulchre of the Virgin Mary, situated in the valley between the Mount of Olives and Jerusalem, founded by St Helena. This is a small square building, flat on the roof, with a door on the south side, by which there is a descent into the interior by steps, having on the right hand a small chapel, with the tomb of St Ann, the mother of Mary. On the left is another similar to the former, where Joseph, the husband of the latter, is said to have been interred. Although the authenticity of such assertions depends on the probabilities of tradition, yet the solemn stillness of the place, the sepulchral gloom, and, above all, the associations which are calculated to affect the mind on seeing every object about this city, combine to render a visit to this consecrated spot so deeply interesting, that a traveller of the least sensibility never can forget it.

Mount of Olives.

Passing along a small bridge thrown over the Kedron, the Mount of Olives next presents itself. About half way towards the summit, there are several grottoes excavated labyrinthically in the rock. Higher up is another cavern, or subterraneous church, as it is now formed, consisting of several arched vaults, where the apostles composed the creed bearing their name; but this is almost filled with rubbish. About fifty yards farther, the spot is pointed out where Christ looked down upon Jerusalem in grief, and pronounced that ever memorable prophecy which has been so awfully and strikingly fulfilled. On the top of the Mount are the remains of a small church or chapel, in the octagon form, with a cupola, denominated the Ascension. This was built by Helena. Here there is shown the impression of the left foot or sandal of a man, which is ten inches in length and four in breadth, made on a rock or stone, said by the guides to be that of Christ, when his foot last touched the earth, though of course this is one of those modern inventions which prevail throughout the country.

Garden of Gethsemane.

The garden of Gethsemane, of all gardens in the world the most hallowed and interesting, is situated at the foot of the Mount, and near the brook Kedron. It is a piece of ground, about the third part of an acre in extent, surrounded by a coarse loose wall of a few feet in height. There are seven olive trees of enormous magnitude remaining, and separate from each other, said to have been in existence since the time of our Lord; they are highly venerated by the Christians, who consider any attempt to cut or injure them as amounting to an act of profanation. Should a Catholic be known to pluck any of the leaves, it subjects him to a sentence of excommunication from church privileges. Beads are made of the stone of the olive, and a string of them is the most sacred object than can possibly be presented to a traveller.

It was to this garden that Christ had occasion to resort with his disciples, to engage in devotional meditation, immediately before his death, and a view of it is calculated to impress the Christian mind with the deepest religious awe. At the upper end is the place where the apostles, Peter, James, and John, fell asleep during the passion of their divine Master, and, in the middle of the garden, the place where Judas betrayed him. Many other interesting places and grottoes are here pointed out, and among them is one which is supposed to be the scene of the agony and the bloody sweat.

Valley of Jehoshaphat.

After leaving the garden of Gethsemane, the traveller enters the valley of Jehoshaphat towards the south, on the eastern side of it. Among the first objects which are pointed out is the pit of Nehemiah, where the avenger of Israel discovered the sacred fire which had been concealed there during the Babylonish captivity. There is also shown the spot where Isaiah is said to have been sawn asunder. A little farther from the scene of the martyrdom, and on the same side of the valley, is the pool of Siloam, so particularly alluded to in Scripture, the water of which is of a brackish disagreeable taste, and flows several miles distant under the city of Jerusalem, and is emptied here into a sort of basin enclosed by a wall. At a short distance from, and over against the pool, is the "Mountain of Offence," as it is termed, where Solomon committed acts of idolatry, by offering sacrifices to the gods of the Moabites and other nations. Near the foot of it, the Field of Blood is shown, where Judas hanged himself; and beyond it two massy pieces of antiquity, one of which is named the Tomb of Zechariah, and the other that of Absalom, formed in an extraordinary manner out of the natural rock, about eighteen feet in height, and ornamented with some columns of architecture, after the Ionic order, hewn in the same entire stone, supporting a cornice over which rises a pyramidal roof. The latter, since Absalom was not supposed to be buried in the valley, is conjectured to have been formed during the life of that prince. Such is the antipathy of the Jews to this monument, that it is their practice in passing to throw stones against it, as a mark of their reprobation of the unnatural rebellion of Absalom against his father. Near it is the sepulchre of Jehoshaphat, which gives the name of the valley. It is a cavern which is more commonly called the Grotto of the Disciples, from an idea that they went frequently thither to be taught by their divine Master. The front of this excavation has two Doric pillars of small size, but of just proportions. In the interior are three chambers, all of them rude and irregular in their form; in one of which were several gravestones, removed, we may suppose, from the open ground for greater security. Like all the rest, they were flat slabs of a long shape, from three to six inches in thickness, and evidently a portion of the limestone rock which composes the adjoining hills.

Chateaubriand is of opinion, that, except the pool of Bethesda at Jerusalem, we have no remains of the primitive architecture of its inhabitants. The tombs in the valley of Jehoshaphat display an alliance of Egyptian and Grecian taste, mixed with the peculiar style of the Hebrews. In the valley of Jehoshaphat the Jews have a place of sepulture, which contains a number of gravestones, and to which those who reside in Jerusalem are in the habit of going in procession at certain seasons, for the purpose of observing a religious festival in memory of the dead. There still exists a strong desire in this people to mingle their dust with the ashes of their fathers, and many of them, as well as Christians, entertain the fantastical belief that the valley of Jehoshaphat is to be the scene of the final resurrection. With respect to its present aspect, Chateaubriand beautifully observes, "What with the sadness of Jerusalem, from which there ascends no smoke nor issues any sound—the solitude of the mountains, in which we perceive no living being—and the confusion of the tombs, all broken, shattered, and half open—one could almost believe that the trump of doom had already sounded, and that the dead had begun to rise in the valley of Jehoshaphat."

Besides the places already described in and about the city which tradition has hallowed, are the following:—Beneath the gate of Bethlehem is the spot where Bathsheba was bathing when David beheld her from the roof of his palace, and the present tower of the king is built upon the site of the ancient palace. A small distance within the gate of St Stephen is the pool of Bethesda. It is one hundred and fifty feet long, and forty broad. The sides are walled with large stones joined together by iron cramps, and covered with flints embedded in a substance resembling plaster. Here the lambs destined for sacrifice were washed, and here the Saviour said to the paralytic man, "Take up thy bed and walk." It receives a melancholy interest from the consideration that it is the only remnant which remains of Jerusalem as it appeared in the days of Solomon. A wretched street leads from this to the governor's palace,

a spacious and rather ruinous building of Roman architecture. It contains some good apartments, the windows of which command an excellent view of the Mosque of Omar and its large area. In this palace the monks point out the room where Christ was confined before his trial; and at a short distance is a dark and ruinous hall, shown as the judgment-hall of Pilate. You then proceed along the street where Christ bore his cross, in which, and in the streets leading up to Calvary, are the three places, where, staggering under the weight, he fell. These are marked by three small pillars laid flat on the ground. The very house of the rich man also is here, and the spot where Lazarus sat at his gate. A pilgrim who comes to the city must set no bounds to his faith, as he is shown the place where the head of Adam was found, the rock on which the martyr Stephen was stoned, and the place of the withered fig-tree, with the milk of the Virgin Mary, and some of the tears that St Peter wept on his bitter repentance.

In the neighbourhood of Jerusalem, the two chief places of interest are Bethany, lying in a northerly, and Bethlehem in a southerly, direction from the city.

BETHANY.

After leaving Jerusalem by the gate of St Stephen, crossing the valley of Jehoshaphat, and passing the garden of Gethsemane and the Mount of Olives, the pilgrim arrives at the village of Bethany, situated about two miles from the city, where Jesus once resided, and where he appeared to his disciples after his resurrection. On the road, we meet with the village of Bethpage, now a heap of ruins. Bethany is both small and poor: it is, however, beautifully situated, and the view just above it is very magnificent. The cultivation of the surrounding soil is much neglected. The object which first strikes the traveller, is a ruinous castellated pile, which it is said Lazarus occupied. This, however, is only one of those oral legends, which, being manifestly of such a nature that the alleged fact could never have been ascertained, only affect the traveller with a painful sense of distrust, as he passes through this otherwise interesting country. Not far distant are the ruins of a building, said to have been the house of St Mark. A little to the right are the vestiges of the habitation of Mary Magdalene. But by far the most interesting object is the tomb of Lazarus. The traveller first descends to a cave, probably from fifty to sixty feet under ground, and lands on a small quadrangular space, where there appears to have been a communication with a church adjoining, which is now built up and converted into a mosque. In the wall of this apartment there is an aperture of about three feet in breadth, formed by the raising of a large stone, as if by some convulsion of nature, and which conducts into an arched vault, said to be the spot where the body was laid. The vault measures about fourteen feet in length, ten in breadth, and eight in height. With respect to the identity of the tomb, Mr Carne observes, "Its identity cannot be doubted—the position of Bethany could never have been forgotten—and this is the only sepulchre in the whole neighbourhood;"—reasoning which appears by no means conclusive.

BETHLEHEM.

Bethlehem, as being the birthplace of Christ, is one of the most interesting places in the Holy Land. The road leading to it is extremely rocky and barren, only diversified by some cultivated patches bearing a scanty crop of grain, and a profusion of wild flowers. On the way lie the ruined Tower of Simeon, who, upon beholding the infant Messiah, expressed his willingness to leave this world; the monastery of Elias, in which there is said to be a large stone, still retaining an impression of his body; and the tomb of Rachel, rising in a rounded top, like those erected to the memory of a Turkish sultan. Farther on is the well of which David longed to drink, and of which his mighty men, at the imminent risk of their lives, procured a supply. To distinguish this town from another of the same name of the tribe of Zebulun, the Bethlehem we now approach is usually distinguished by the addition of Ephrata, or by a reference to the district in which it is situated. It is a small village, situated upon a mountain, and surrounded with gardens of fig-trees and olives. The houses are very humble, and flat on the roof, with stairs on the outside.

The principal buildings in Bethlehem are the convent and church of the Franciscans, which cover the supposed spot of the nativity. From the alteration of the surface caused by the building, this celebrated spot is now a species of vault or subterraneous chapel, called the Chapel of the Nativity. Before the altar in this underground chapel, there are several massy silver lamps kept constantly burning; and the spot where it was said Christ was born, is marked with a star, formed of white marble, inlaid with jasper, and surrounded with a radiance or glory. On this there is encircled the following inscription:—

Hic de Virgine Jesus Christus natus est.

[Here Jesus Christ was born of the Virgin Mary.]

To the right of this is shown the place where stood the manger in which he was laid. It appears to be cut out of the natural rock, and lined with marble. Lamps of silver are always kept burning before it. A narrow passage leads from this chapel into that of the innocents, who were slain by the command of Herod, where is a cell, in which, say the monks, St Jerome made a translation of the Bible. A short distance from the convent is a grotto, where, according to tradition, the mother of Jesus concealed herself and child, whilst Joseph was making arrangements for their flight!

Four miles to the south of Bethlehem, in a most secluded situation in the middle of mountains, are situated the celebrated pools or fountains of Solomon. These are three in number, of a quadrangular form, cut out of the living rock. About half a mile below there is a deep valley, embosomed in high hills, where it is said the gardens of Solomon were laid out.

From the top of the church at Bethlehem there is a fine prospect of the surrounding country, extending to Tekoa on the south, and En-gedi on the east. In the latter place is the grotto or cave of Adulam, where David cut off the skirt of Saul's garment. Between this point and Jerusalem are several small detached towers, of a square form, built in the midst of vineyards. These are for the accommodation of watchmen appointed to guard the produce from thieves and wild beasts, as alluded to by the evangelist St Mark.

About twenty miles south from Bethlehem is Mount Hebron, with the town of that name, one of the old cities of Canaan, but now containing only 700 or 800 Arab families. The present inhabitants are the wildest and most lawless, and desperate people of the Holy Land. The principal mosque is said to contain the tombs of Abraham, Isaac, and Jacob; being in the possession of bigoted Mussulmans, no examination can be made of these supposed objects of antiquity.

CAVE OF JEREMIAH.

The central district of Palestine, northward from Jerusalem, contains a few objects of interest to travellers. The first which attracts their attention is the cave of Jeremiah, situated at a short distance from the gate of the Holy City. The bed of the prophet is shown in the form of a rocky shelf, about eight feet from the ground; and the spot is likewise pointed out on which he is understood to have written his book of Lamentations. At a little distance from the city stand the sepulchres of the kings, connected with which there still prevails some obscurity. But whoever was buried here the place discovers so great an expense, both of labour and treasure, that we may well suppose it to have been the work of kings. It is approached on the east side by an entrance cut out of the rock, which opens into a court of about forty paces square. On the south side is a portico nine paces long and four broad, likewise hewn out of the living rock, and having an architrave running along its front adorned with sculpture. In the interior there are six or seven rooms in which stone coffins are exhibited.

BEER, LEBONAH, AND THE MOUNT OF GERIZIM.

The next object of importance which we meet with is a village supposed to be the Mickmash alluded to in Scripture. It is at present distinguished by the name of Beer, signifying a well, and adopted, most likely, from a delicious spring of water flowing through it; near to which are the ruins of a church, built in commemoration of the missing of Jesus by his parents, on their way home from Jerusalem, when it was discovered that he had remained in the temple with the expounders of the law. It was to this place, also, that Jotham had recourse in order to escape the fury of his brother. Beyond this hamlet, at the distance of about four hours' walk, is Leban, called Lebonah in the Bible, a village situated on the eastern side of a delicious vale. The road between these two places is carried through a wild and very hilly country, destitute of trees or other marks of cultivation, and rendered almost totally unproductive by the barbarism of the government. In a narrow dell, formed by two lofty precipices, are the ruins of a monastery, being in the neighbourhood of that mystic Bethel where Jacob enjoyed his celestial vision. We next arrive at the well of that patriarch, the scene of the conference between our Saviour and the woman of Samaria. Over this fountain Helena erected a large edifice, of which, however, almost nothing now remains. Near this is the narrow valley of Shechem, the Sychar of Scripture, overhung on either side by the two mountains Gerizim and Ebal, memorable as being the theatre on which was pronounced the sanction of the divine law. The Samaritans have, as is well known, a place of worship on Mount Gerizim, where at certain seasons they perform the rites of their religion. According to their version of the Pentateuch, it was here that the Almighty commanded the children of Israel to set up great stones covered with plaster, on which to inscribe the body of their law; to erect an altar to offer peace-offerings; and to rejoice before the Lord their God. In the Hebrew edition, Mount Ebal is said to have been the scene of these pious services—a variation which the Samaritans ascribe to the malice of the Jews. In the vicinity of the town is a small mosque, which is said to cover the sepulchre of Joseph, and to be situated in the field bought by Jacob from Hamor, the father of Shechem, as is related in the book of Genesis.

NABLOUS OR SHECHEM, AND SAMARIA.

Penetrating farther northwards, we arrive in a rich and fertile district, in which is situated Nablous, the ancient Shechem, and at present one of the most flourishing towns in the Holy Land. It has a very imposing appearance when viewed from the surrounding heights, and looks as if it were embosomed in a delicious paradise. The population, who are principally Mahommedans, have been estimated at 10,000, but this Mr Buckingham thinks an exaggeration.

The Samaritans do not exceed forty in number. They have a synagogue, where divine service is performed every Saturday. Four times a-year they go in solemn procession to the old temple on Mount Gerizim, on which occasion they assemble before sunrise, and read the law till noon. They have but one school in Nablous where their language is taught, though they take much pride in preserving ancient manuscripts of their Pentateuch in the original character. Mr Connor saw a copy which is reported to be 3500 years old, but he was not allowed to examine nor even to touch it. The events transacted in the field of Shechem render the localities contiguous to this city peculiarly interesting. Here stands the well of Jacob, and here the sons of the patriarch "drove their flocks a-field," and here they said to the Ishmaelites their brother Joseph, the future all but potentate of the greatest kingdom then upon the face of the earth. Here, as of old, the shepherds graze their flocks upon the hills of Samaria, and the Ishmaelites come from Gilead, "bearing spices, and balm, and myrrh"—so enduring are the customs and manners of the east.

A few miles beyond Nablous, and about forty from Jerusalem, is situated the town of Samaria. The situation is extremely beautiful, and naturally strong, occupying the summit of a hill, encompassed all around by a deep valley. But the city which Herod adorned with princely buildings is now a mere village, small and poor, exhibiting only the miserable wreck of former greatness. Here John the Baptist was decapitated, and the Empress Helena erected a church over the place where he pined and suffered; but it has shared the fate of the rest of the city, being now a mere ruin. The prison where the holy blood of the desert-bred was spilled, is, however, pointed out by the Turks, who hold it in high veneration.

THE DEAD SEA.

This extensive sheet of water lies in an easterly direction from Jerusalem, and also from Bethlehem. In proceeding towards it from the latter place the traveller goes through a vale where it is said Abraham was wont to feed his flocks. This pastoral plain is succeeded by a range of mountainous and barren ground. Descending from this, two lofty towers rise from a deep valley, marking the site of the Convent of Santa Saba, a very ancient church. Its situation is dreary, being built amidst precipices on the brink of a deep and gloomy dell, where the brook Kedron flows.

In advancing, the country still presents a desolate aspect. The road at length seeks a lower level, and approaches the rocky border which bounds the valley of the Jordan; when, after a toilsome journey of ten or twelve hours, the traveller at last beholds the Dead Sea, and the line of the river; the landscape, however, is by no means grand or prepossessing. Two long chains of mountains run in a parallel direction from north to south, without breaks and without undulations. The eastern or Arabian chain is the highest; and when seen at the distance of eight or ten leagues, it resembles a prodigious perpendicular wall. Not one summit, not the smallest peak, is distinguishable; only slight inflections are here and there observed, as if the hand of the painter who drew this horizontal line along the sky had trembled in some places. The mountains of Judea form the range on which the observer stands as he looks down on the lake Asphaltites; it is less lofty and more unequal than the eastern chain, and also differs from it in its nature; exhibiting heaps of chalk and sand, which assume various bizarre forms. The Arabian side, on the contrary, presents nothing but bleak precipitous rocks, which throw their long and gloomy shadows over the water of the Dead Sea. Not a single blade of grass is to be found among these crags; every thing announces the country of a reprobate people, and well fitted to perpetuate the doom pronounced on Ammon and Moab. The valley embosomed in these two chains of mountains displays a soil similar to the bottom of a sea which has long retired from its bed—a beach covered with salt, dry mud, and moving sands, furrowed as it were by the waves. Vegetation is here in a deplorable state: there are a few dreary shrubs, with leaves covered with salt, and a bark which has a smoky smell and taste. Instead of villages, you perceive the ruins of a few towers. In the middle of this valley flows a discoloured river, which reluctantly throws itself into the pestilential lake by which it is engulfed. Its course amid the sand can be distinguished only by the willows and the reeds that border it; among which the Arab lies in ambush to attack the traveller, and to rend the pilgrim.

We now come to the lake itself, called in Scripture the Dead Sea; among the Greeks and Romans, Asphaltites; and among the Arabs, Bahr Lout, or the Sea of Lot. Considerable diversity of opinion has prevailed, both among the ancients and moderns, regarding the exact dimensions of this lake, which as yet are probably not accurately ascertained. Mr Carne says, its length may probably be about sixty miles, and its average breadth eight. Mr Banks, however, who took observations from several neighbouring heights, says that its length exceeds [illegible]

This discrepancy places the inaccuracy of travellers, with regard to their topographical descriptions of Palestine, in a very strong point of view. It is surrounded on the east by lofty hills, exhibiting rugged and frightful precipices; on the north it is bounded by the plain of Jericho, through which it receives the river Jordan. Other streams are discharged into it; and there being no visible outlet, while the banks are not overflowed, some have thought there is a subterraneous channel communicating with the Mediterranean; others readily account for the phenomenon, in the evaporation which necessarily takes place in a hot climate. This lake is clear and limpid, resembling the colour of the sea. Its waters are in general fatal to animal life, nor do vegetables flourish in their immediate vicinity. The fishes carried hither by the river Jordan, according to the concurring testimony of travellers, speedily perish; but the latest observers affirm that there are some small ones in the lake peculiar to itself, as also that a few inferior vegetables may be seen in it.

Travellers on bathing in the lake find their faces covered with a thin crust of salt, and the stones which the water occasionally covers, are encrusted with the same substance. From whatever cause, the water is different from that of other lakes or seas. On being analysed, it is found to have a greater specific gravity, or power of buoying up bodies, than any other water. It holds in solution muriate of lime, muriate of magnesia, muriate of soda, and sulphate of lime; of all these there are 24 grains in 100 grains of water.

Great quantities of asphaltum, or mineral pitch, are always seen floating on the surface of the Dead Sea, and it is driven by the winds to the banks on the east and west; but the statement that a pestilential effluvium hovers over it is doubtful. Mr Carne informs us that there is nothing of the kind. The neighbourhood of the lake abounds with volcanic products; and although eruptions have ceased for many centuries, earthquakes are still common in Syria and Palestine.

The Dead Sea is associated with that dreadful catastrophe recorded in Scripture, the destruction of Sodom and Gomorrah. With respect to the agents employed for executing the purpose of divine vengeance, various conjectures have been hazarded—some suppose that the great cities were swallowed up by a volcano. The opinion of Chateaubriand, who had carefully examined several volcanoes, is decidedly opposed to this theory. The learned Frenchman inclines to the opinion of Michaelis and Busching, that Sodom and Gomorrah were built upon a bituminous mine; that lightning kindled this combustible mass; and that the cities were engulfed in this subterraneous conflagration. Malte Brun ingeniously supposes that the stones of which the towns themselves were built might be bituminous, and thus have been kindled by the fire of heaven. These views appear very plausible, when taken in connection with the Mosaic account of the place, that the vale of Siddim, which is now occupied by the Dead Sea, was full of "slime pits," or pits of bitumen. There can be no doubt, however, that combustible matter descended from heaven upon the devoted cities of the plain, for the language of the Scriptural account is precise and explicit: "The Lord rained upon Sodom and Gomorrah brimstone and fire from heaven." According to Strabo, there were thirteen towns swallowed up in the lake Asphaltites; Stephen of Byzantium reckons eight; the book of Genesis, although it names five as situated in the vale of Siddim, relates the destruction of two only; four are mentioned in Deuteronomy, and five are noticed by the author of Ecclesiasticus. A considerable difference of opinion exists respecting the probable outlet of the waters of the Jordan, previous to the catastrophe which destroyed Sodom and Gomorrah, and created the Dead Sea on their site. Burckhardt and others allege, that the Jordan must have proceeded along the plain of Sodom, and pursued a course through the wilderness to the Gulf of Akaba, or eastern limb of the Red Sea; indeed ther probable outlet could be assigned. Other travellers who have scrupulously examined the dis and taken its levels mathematically, declare that surface of the Red Sea is several hundred feet b the level of the Gulf of Akaba, and much more b that of the Mediterranean. If this be the case land on which the Dead Sea rests, and also the pr termination of the Jordan, must have been sunk at 1000 feet on the occasion of the awful catastrophe w laid the "cities of the plain" in ruins, and covered with a waste of bitter waters.

THE RIVER JORDAN.

The river Jordan, which flows into the Dead S its northern extremity, rises at the foot of the m tains of Lebanon, and has altogether a course of miles. For the last two or three miles, it runs bet perpendicular banks of sand, from five to ten feet and here the river is about thirty paces broad. A miles from its mouth, on the right side, and at a distance from the stream, is the site of the an Jericho, now consisting only of a few miserable and a watch-tower. At this point of the river is a where the Israelites crossed from the Arabian sid Palestine, under the command of Joshua. Passin the vale of the Jordan, for a distance of ninety o hundred miles, with the land of Gilead, as it is c on the right, the traveller arrives at the Lake of G sareth, near which are a number of places ment in the narrative of Christ's ministrations.

LAKE OF GENESARETH.

This sheet of water, which is an expansion o Jordan, passes under various names from the s writers, such as the Sea of Galilee, Lake of Tib and Lake of Geneser or Genesareth. The Jordan enters at the northern and flows out a southern extremity, and its course is visible all th through. The range of mountains forming its ea shore, is very lofty, and their steep and rocky side barren; the western shore, where the town stan lower; the hills are more picturesque, and divid sweet valleys clothed with verdure, but destitu trees. With respect to the size of the lake, we choose again amongst conflicting statements. It s to be about fifteen miles in length and five in b The waters are perfectly sweet and clear, and th are said to be of a delicious flavour.

It is almost unnecessary to remind the reader this lake and neighbourhood were the scene of important events recorded in the New Testament. I it will be remembered, Christ embarked in a shi go to different places about its borders, in the p cution of his errands of mercy, and from which h structed the multitude who had assembled on the s

Capernaum lies at the upper end of the lake, a now called Talhewm, or Tel Hoom. It is nothing than a station of Bedouins, but there are traces former importance. The foundations of a magnif but now much dilapidated edifice can still be trac

Tiberias, which makes a conspicuous figure i Jewish annals, is situated on the western side, a the only place on the sea of Galilee retaining any n of its ancient importance. It is understood to the ground formerly occupied by a town of a remoter age, and of which some traces can still b tinguished. Tabaria, as it is now denominated, ha form of an irregular crescent, and is enclosed to the land by a wall, flanked with circular towers. nearly north and south, along the edge of the lake has its eastern front so close to the water, on the of which it stands, that some of the houses are w by the sea. The whole does not appear more th mile in circuit, and cannot, from the manner in w they are placed, contain above 500 separate dwel Here there are a mosque and two Jewish synago also a Christian place of worship, called the Hou Peter, which is thought by some to be the oldest b ing used for that purpose in any part of Palestine. structure is of very ordinary description; but it de

so small interest from the popular belief that it is the very house which Peter inhabited at the time of his being called from his boat to follow the Messias. The population of the town does not now exceed 2000. Of these, about one-half are Jews; the rest are Mahommedans, with the exception of a few of the Christian creed. The warm baths, which have given celebrity to that neighbourhood, are still found at the distance of between two and three miles southward from the town.

MOUNT TABOR.

An almost uninterrupted ascent, in a south-westerly direction, conducts from Tiberias to Nazareth. On this route, we have on our left Mount Tor, or Tabor. This mount, which is classed in Scripture with Hermon, and is of a sugar-loaf shape, stands apart from the neighbouring mountains, is at one end of the great plain of Esdraelon. It may be ascended on all points, excepting towards the north, where it is rugged. There is not, perhaps, to be found, in the whole compass of the globe, one spot, from which a believer in the gospel can possibly enjoy a more sublime or glorious prospect, than from the summit of Mount Tabor. In the first place, there is presented to view an extensive plain, on one side of which, on the left hand, are the mountains of Samaria, towards Jerusalem; on the other, to the right, those about Nazareth, especially the memorable hill from which the Jews attempted to precipitate Christ. At the opposite extremity of this plain, is the top of Mount Carmel, washed by the ocean. In another direction, we see Hermon in its lofty dignity; Endor, and Nain, with the mountains of Gilboa; the valley of Jordan; the spacious plains of Galilee, with its sea of Genesareth, and its enclosure of mountains; Dothan, where Joseph was sold, with its rivers, valleys, and little hill; and the village of Saphet, anciently called Bethulia, on an eminence, and presumed to have been the point of elevation alluded to by Christ in his sermon on the mount, from which it is also remarkably conspicuous, and not at a great distance. Again, the sublime height on which he delivered this memorable oration; the route to Damascus; lastly, Mount Lebanon, towering with prodigious alpine dignity in the background.

Different opinions have been entertained by writers with regard to the extent of ground on the summit of Tabor, and the cultivation of it. Taking the whole into calculation, it may be nearly two miles in diameter. To the west, there are masses of scattered ruins. At one period, a governor of Galilee surrounded the top of it with walls, which is confirmed by the scattered fragments still to be seen. St Helena, also, in prosecution of her zeal in the cause of Christianity, founded two monasteries, one to the memory of Moses, and the other of Elias. Various historical incidents are connected with this mountain. Here it was that Barak, descending with his ten thousand men from Tabor, discomfited Sisera and all his chariots. In the same neighbourhood, Josiah king of Judah fought in disguise against Necho king of Egypt, and fell by the arrows of his antagonist, deeply lamented. Vespasian reviewed his army in the same great plain. It has been a chosen place for encampments in every contest carried on in the country, from the days of Nebuchadnezzar king of the Assyrians, down to the disastrous invasion of Napoleon Bonaparte.

NAZARETH.

A short way to the north-west of Mount Tabor is situated the village of Nazareth, on the western slope of a delightful valley, and encompassed by rocky mountains; the distance from Jerusalem is about one hundred miles. The place is properly named Nazareth of Zebulun. The inmates of a convent at the eastern extremity of the village, conduct travellers to a number of spots in the neighbourhood of scriptural interest, but greatly changed in their appearance in modern times. The first thing to which attention is directed is the church belonging to the convent, which is rather elegant, and is erected over the grotto or cave where Mary took up her abode. It has no other roof than that which is formed of the natural rock, and is in the shape of a cross.

Among many pictures which adorn this church, there is a pretended likeness of Christ.

The second object shown is the shop where Joseph worked; it is now used as a place of worship. Over the altar, he is represented with the implements of his trade, holding our Lord by the hand, as if in the act of imparting the knowledge of his vocation.

Thirdly, a chapel, in the centre of which is an enormous stone, about nine feet in length, and six in breadth, on which it is affirmed that Christ sat and ate with his chosen few.

Fourthly, the synagogue where Christ, agreeably to his practice, read to the Jews, from the sacred volumes, on the Sabbath.

Fifthly, near the town is pointed out a hill, from which, disregarding the sanctity of that day, they threatened to throw him, in consequence of the dissatisfaction which his addresses had given.

And, lastly, a well of the Virgin, which supplies the inhabitants of Nazareth with water. Mr Carne says, the population may amount to about 1200, and are mostly Christians.

After crossing the plain of Esdraelon, we come to Mount Hermon, the dew of which is so beautifully alluded to by the Psalmist. Near this place stands Nain, which is so called from its pleasant situation, where the widow's son was restored to life. About two miles from Nain, is seen Endor, where the sorceress resided who was consulted by Saul, and in the vicinity are the mountains of Gilboa, where the forces of Israel were collected.

A few miles northward from Nazareth, is

CANA OF GALILEE.

This village, which was the scene of the earliest miracle performed by our Lord (the conversion of the water into wine at the marriage feast), is pleasantly situated on a small eminence in a valley, and contains 200 or 300 inhabitants. Many pots, answering to the description given by the Evangelist, are found lying about amongst the ruins; from which it would appear evident, that the practice of keeping water in large stone pots, each holding from eighteen to twenty-seven gallons, was once common in the country. Near the bottom of a field, which is said to be that in which Christ plucked the ears of corn upon the Sabbath, stands the Holy Mount, which has been so eminently distinguished as the spot from whence the multitudes were addressed. It has an elevation of from 200 to 300 feet.

The landscape, which stretches from the lake of Tiberias to the sources of the Jordan, is in many parts uncommonly fine, presenting luxuriant crops, thriving villages, and other tokens of security and comfort. The mountains that terminate the prospect are magnificent, some of them being covered with perpetual snow.

SAPHET, SEPHOURI, AND ZEBULUN.

The only town of consequence between the ruins of Capernaum and the alpine range of Hermon and Djibbel el Sheik, is Saphet or Zaffad, being one of the four cities consecrated by the religious veneration of the Hebrews. According to Burckhardt, it stands upon several low hills that divide it into quarters, the largest of which is occupied by Jews. The whole may contain 600 houses, of which 150 belong to the people just named, and nearly as many to the Christians. The summit of the principal eminence is crowned with an ancient castle, part of which is regarded by the descendants of Israel as being contemporary with their ancient kings. The Jews have here seven synagogues, and a sort of university for the education of their rabbis. Their attachment to this place arises especially from the traditionary belief, that the Messias is here to reign forty years before he assumes the government at Jerusalem. From Nazareth to Acre we proceed over a barren rocky tract of country; on the way we meet with Sephouri or Sepphoris, the Zippor of the Hebrews, and the Diocesarea of the Ro-

mans, once the chief town and bulwark of Galilee. The remains of its fortifications exhibit one of the works of Herod, who, after its destruction by Varus, not only rebuilt and fortified it, but made it the principal city of his tetrarchy.

Its chief celebrity is connected with the tradition that it was the residence of Joachim and Anna, the parents of the Virgin Mary. Constantine built a magnificent church over the spot where the devout couple lived. The vale of Zebulun divides the above village from the ridge of hills which look down on Acre and the shores of the great sea. This plain every where presents the most beautiful scenery. On the road, various ruins occur which exercise the ingenuity of the antiquarian traveller. All remains of the strong city of Zebulun have disappeared, and its admirable beauty, rivalling that of Tyre, Sidon, and Berytus, is now sought for in vain among Arab huts and heaps of rubbish. We shall now proceed in a westerly direction to the coast of the Mediterranean, to describe those points of interest lying to the north of Acre.

TYRE.

Tyre (now called Tsour), which is situated on the coast about twenty miles north from Acre, and anciently belonged to the Phœnicians, is renowned in Scripture as a mighty mercantile stronghold, encompassed with walls and towers. Perhaps, of all other maritime cities in the globe, this was the most highly renowned for riches and commerce, since its very merchants were declared to be as princes, and "every deck a throne." A most interesting description of the trades carried on within its walls, has been transmitted to us in the 27th chapter of Ezekiel. It was not, however, merely in a commercial point of view that it was represented to the world at large as an object of wonder and admiration. Among the variety of trades exercised in this city, that of dyeing was most distinguished, on account of the beautiful purple tint, which poets have celebrated as a chief ingredient in the magnificence of the vestments worn by the principal inhabitants. During the time of our Saviour, considerable importance must have been attached to the city, as it is frequently alluded to, with its neighborhood. Tyre was besieged and taken by Alexander the Great, after whose death it began to recover, and maintain a commercial character. It afterwards submitted, first, to the Roman, and afterwards to the Mahommedan yoke, under the power of which it now remains. It was enclosed with walls, which originally must have been of great strength, furnished with towers, having holes or apertures for making observations, part of which still remain. In the present day it exists as a small decayed town at the outer extremity of a low sandy peninsula, and a recent traveller mentions that he saw only a single boat in its harbour.

SIDON.

Sidon, or Zidon, called by the Arabs Tsaida, is situated on the coast at about twenty miles northward from Tyre. It owes its name to the eldest of the sons of Canaan, and was comprehended under the "lot," or possessions, formally assigned to the tribe of Asher. It appears to have been higher in point of antiquity than Tyre, although both have been classed in the character of sisters, arising, most likely, from their near contiguity, and publicly considered as a city of large extent and importance, since it has frequently been mentioned in Scripture by the title of "Zidon the Great." The inventions of the alphabet and architecture, the use of glass, and skill in casting and sculpture, have been celebrated; its Tyrian rivals dexterity in dyeing wool and hard crystal the subject matter in the page of history to the latest period of time. The coarse red pigments of this people were almost as lucrative as they were extensive; and it was likewise celebrated for its maritime enterprise.

Sidon is now a small town, rising gradually from the sea-shore, very pleasantly situated, and surrounded with rich gardens. The streets are excessively narrow, many of them under archways, as at Jerusalem: the inhabitants mated at about 7000, of whom 2000 are Chris have places of worship; the Jews, also, wh calculated at 200, have a synagogue. Con small extent, the trade of this place is co particularly in silk.

The next object of importance in a north tion is

MOUNT LEBANON,

"Whose head in wintry grandeur towers,
Whitened with eternal sleet;
While summer in a vale of flowers,
Is sleeping rosy at his feet."

This mountain has received the appellation o from the word Leban, signifying white, and, bability, from the snow which remains on during the whole year. It has afforded ma images and beautiful metaphors to the sacre Its cedars, alluded to in ancient prophecy, h ages been celebrated as fine objects. It may added, that, uniting so many qualities for buil of these trees were sent by King Hiram to S the erection of his temple.

The highest elevation of Lebanon is 9600 sides are still shaded with cedars, and beau thousands of rare plants.

THE DRUSES AND MARONITES.

The mountains of Lebanus and neighbou inhabited by two races, differing in religion ners, but similar in their love of indepen Maronites and the Druses. The country of t is called Kesraoun, the Castravan of the hi the crusades. It reaches from the river Ke Kelb. The Maronites, amounting to 120,000 villages and hamlets. The fervour and devo animate this people recall to us the ideas of tive church. An imposing superstition has c a cedar forest which is said to have furnished of Solomon's temple. Only twenty large ceda and this old vegetable race verges fast to its Every year, on transfiguration day, the G Armenians, and the Maronites, celebrate a n altar of rough stones raised at the roots of ti rable trees.

The Druses, also 120,000 in number, live t of the Maronites. Their country has severa sions, differing from one another in their soil a tions. It is by religious peculiarities that t is separated from the other inhabitants of Sy believe in one God, who, for the last time, sh self in human form in the person of Hakem, Egypt, in 1030. Persuaded that all other s belief will finally be united in that which the they regard them all with equal indifference, the Christians have considered them as entit marked contempt for the Mahommedan relig cent travellers have described the Maronites a as an inoffensive primitive people.

In a northerly direction from Sidon, the co any consequence on the Mediterranean as Bei

BALBEC AND DAMASCUS.

Having reached Mount Lebanon, at the extremity of Palestine, travellers generally sp days in making a journey to Balbec and I both lying beyond the frontier of the Holy L soil of great historical interest. Balbec, th Heliopolis, and once distinguished for its Grecian and Roman architecture, is now a ruins. These, however, are of the most m solid, and not of delicate columns, façades and other elegant kinds of destroyed buildings is now uninhabited, except by wandering Ar masses, situated near the confluence of the riv and Pharphar of Scripture (see map), is a town in Syria, built in the eastern style, and

* For an account of the ruins of Balbec, see Lamarth in the Last, page 113: People's Edition.

ounding country, is again in the possession of the an.

amascus is enlivened by the bustle of commerce, the passage of the caravans to Mecca. The great et which crosses it presents two rows of shops, in h the riches of India glitter along with those of ope. Damascus is seven miles in circumference, at present the population may amount to 100,000. private houses in Damascus, simple in external arance, exhibit in the interior all the splendour d gance of a refined luxury; great magnificence so displayed in the mosques, the churches, and the e-houses. The large mosque is a fine and spacious ding, but no traveller is permitted to enter. The n Verdy, or Coffee-House of Roses, is considered ne of the curiosities of the Levant. Various places ciated with events mentioned in Scripture, are ted out in the city and neighbourhood. The street, called Straight, is that where St Paul is, with reason, to have lived. It is as straight as an arrow, a e in length, broad, and well paved. A lofty window, ne of the towers to the east, is shown as the place re the apostle was let down in a basket; and in the r to Jerusalem is the spot where his course was ested by the light from heaven.

ARABIA PETRÆA.

rabia Petræa, or Arabia the Rocky, is the most therly part of the peninsula of Arabia, and includes territory lying between the Mediterranean and the upper extremities of the Red Sea. These extremities form two gulfs—the Gulf of Suez, which is the est, and the Gulf of Akaba. The Gulf of Suez is acent to Egypt, and betwixt it and that of Akaba re is an angular tract of country, in which is situated wilderness of Sinai. The whole of this territory, m the borders of Egypt to near the Dead Sea in lestine, and from the Red Sea to the Mediterranean, ittle else than an universal desert of rocky mountis and sandy plains, almost destitute of any settled man habitations, and inhabited only by roving bands Arabs or Bedouins (children of the desert), whose nd is against every man, and every man's hand in-t them. Anciently, the country, which was called its more northerly part, the land of Edom or mea, was mostly fertile and productive, but by the roachments of the sands of the deserts and the deson which has otherwise spread over it, the land is erally barren, and mostly in the condition of a wilness. Till this hour, the curse of God, as enunci-l by the prophet Isaiah, rests upon it—"From genetion to generation it shall lie waste; none shall pass ough it for ever." With the exception of a few ach and English travellers who have within the twenty years passed through Idumea, from Akaba Jerusalem, the prophecy has been fulfilled.

ccording to the accounts of recent travellers, noing can exceed in rugged grandeur the desolate ion of Sinai and Mount Horeb. Rocks piled on ks to an immense height, precipitous cliffs, and e desolate valleys, fill up the melancholy scene. On face of Sinai, a fortified monastery is placed, for the ommodation of Christian pilgrims and travellers. e ascent of the mountain commences above the monastery, and in this direction it was climbed by Mr phens, who reached the top with some difficulty, and around him a terrific solitude, a perfect sea of olation. "Not a tree, or shrub, or blade of grass, n be seen upon the bare and rugged sides of immurable mountains, heaving their naked summits to skies. The level surface of the very top or pinnacle, bout sixty feet square. At one end is a single rock ut twenty feet high, on which, it is said the monk [my nductor] the spirit of God descended, while, in the ion beneath, his favoured servant [Moses] received e tables of the law. The ruins of a church and conent are still to be seen upon the mountain, to which, fore the convent below, was built, monks and hermits used to retire, and, secluded from the world, sing the praises of God upon his chosen hill. Near this, also in ruins, stands a Mahommedan mosque—for on this sacred spot the followers of Christ and Mahommed have united in worshipping the true and living God."

The route from Sinai towards the land of Edom is by way of Akaba, a small fortified town at the head of the Gulf of Akaba, or Elanitic branch of the Red Sea. The journey is through a rocky desert, "with here and there (says Mr Stephens) a fertile spot, near some fountain or deposit of water, known only to the Arabs, capable of producing a scanty crop of grass to pasture a few camels and a small flock of sheep or goats. There the Bedouin pitches his tent, and remains till the scanty product is consumed; and then packs up his household goods, and seeks another pasture-ground. The Bedouins are essentially a pastoral people; their only riches are their flocks and herds, their home is in the wide desert, and they have no local attachments; to-day they pitch their tent among the mountains, to-morrow in the plain; and wherever they plant themselves for the time, all that they have on earth, wife, children, and friends, are immediately around them. In fact, the life of the Bedouin, his appearance and habits, are precisely the same as those of the patriarchs of old. Abraham himself, the first of the patriarchs, was a Bedouin, and 4000 years have not made the slightest alteration in the character and habits of this extraordinary people. Read of the patriarchs in the Bible, and it is the best description you can have of pastoral life in the East at the present day.

Akaba (continues this writer) is situated at the foot of the sandstone mountains, near the shore, and almost buried in a grove of palm-trees, the only living things in that region of barren sands. It is the last stopping place of the caravan of pilgrims on its way to Mecca, being yet thirty days' journey from the tomb of the Prophet, and, of course, the first at which they touch on their return. Except at the time of these two visits, the place is desolate from the beginning of the year to its close; the arrival of a traveller is of exceedingly rare occurrence, and seldom does even the wandering Bedouin stop within its walls; no ship rides in its harbour, and not even a solitary fishing-boat breaks the stillness of the water at its feet. But it was not always so desolate, for this was the Eziongeber of the Bible, where, 3000 years ago, King Solomon made a navy of ships, which brought from Ophir gold and precious stones for the great temple at Jerusalem; and again, at a later day, a great city existed here, through which, at this distant point of the wilderness, the wealth of India was conveyed to imperial Rome. But all these are gone, and there are no relics or monuments to tell of former greatness; like the ships which once floated in the harbour, all have passed away. Still, ruined and desolate as it is, to the eye of feeling the little fortress is not without its interest; for, as the governor told me, it was built by the heroic Saladin.

Standing near the shore of this northern extremity of the Red Sea, I saw before me an immense sandy valley, which, without the aid of geological science, to the eye of common observation and reason had once been the bottom of a sea or the bed of a river. This dreary valley, extending far beyond the reach of the eye, had been partly explored by Burckhardt; sufficiently to ascertain and mention it in the latest geography of the country as the great valley of El Ghor, extending from the shores of the Elanitic Gulf to the southern extremity of the Lake Asphaltites or the Dead Sea; and it was manifest, by landmarks of Nature's own providing, that over that sandy plain those seas had once mingled their waters, or perhaps, more probably, that before the cities of the plain had been consumed by brimstone and fire, and Sodom and Gomorrah covered by a pestilential lake, the Jordan had here rolled its waters. The valley varied from four to eight miles in breadth, and on each side were high, dark, and barren mountains, bounding it like a wall. On the left were the mountains of Judea, and on the right those of Seir, the portion given to Esau

as an inheritance; and among them, buried from the eyes of strangers, the approach to it known only to the wandering Bedouins, was the ancient capital of his kingdom, the excavated city of Petra, the cursed and blighted Edom of the Edomites. The land of Idumea lay before me, in barrenness and desolation; no trees grew in the valley, and no verdure on the mountain tops. All was bare, dreary, and desolate."

Pursuing a route through this dreary tract of wilderness, and on approaching Mount Hor, on the summit of which is a small sepulchral edifice, said to be erected over the tomb of Aaron, the traveller turns aside to the right, and, in the bosom of the mountains, reaches the ancient city of Petra, the Edom of the Edomites, now entirely deserted by human beings, but still presenting to the eye a most wonderful spectacle. It is a city whose houses and temples are cut out of the face of the solid rocks. Petra was the capital of the Edomites, and the centering point of commerce betwixt the Red Sea and the higher part of Syria. Ultimately, it fell under the sway of the Romans, by whose architectural genius it was greatly enriched; its final destruction was only a part of the universal ruin which overtook the Syrian cities by the intrusion of barbarian hordes. Of its present aspect, "conceive (says Mr Roberts, a late traveller) a town with the most noble mansions excavated in the face of perpendicular rocks, varying from five hundred to a thousand feet in height, and that to an extent of six or eight miles in all directions; the valleys or narrow ravines forming the streets, with lanes winding over from one to the other to the height I mention. The centre of the main valley had originally been occupied by houses built in the usual way, but repeated earthquakes levelled all in one common mass of ruin. There is now a city fortified by nature, such as never city was before or since, surrounded by mountains, the only passage of entrance through which is by a ravine so narrow that two camels can scarcely enter abreast. While the city was inhabited in ancient times, the hills around were cultivated to the very summit; there was a stream of delicious water flowing through it, and the population must have been immense." One of the most beautiful and perfect of the excavated edifices is that called the *Khasne Faraoun*, or Treasury of Pharaoh; an idea of its appearance, cut out in the face of a rocky precipice, may be obtained from the cut introduced at the commencement of the present sheet.

The secluded valley of Petra is now called by the Arabs Wady Moussa, or Valley of Moses, and, with its ruined city, forms one of the greatest wonders of the known world. On all sides are seen traces of a former period of opulence, refinement, and dense population. In a southern direction from Wady Moussa, is the valley of Sabra, which is a smaller Petra. M. Laborde, a late French traveller, thus speaks of it:—"We had scarcely proceeded an hour's distance down the rapid declivity of Wady Sabra, leading our dromedaries after us, when the supporting walls, ruined buildings, and well-preserved [stone] benches of a theatre, attracted our attention. The ruins of Wady Sabra, as well as those of Wady Pabouchabe, indicate these places to have served as suburbs to the capital—the young swarms sent forth from the parent hive. Had we been enabled to explore the whole of the valleys in the neighbourhood of Wady Moussa, we should, doubtless, have found on all sides similar establishments, which the enormous population of Petra sustained." The prophecies respecting the cities of Mount Seir (Ezekiel, xxxv. 6), are here amply fulfilled. M. Laborde, in his journey along a rocky ridge towards the Red Sea, occasionally met with cultivated spots in this lone wilderness. "The wonderful fertility," he observes, "of these rare patches of earth, in the midst of a sterile country, seemed intended
re mind us that one day that region had been happy,
are a powerful hand had weighed so heavily upon it.
re is to be found at Karek a species of bearded
at, that justifies the text of the Bible against the
es of exaggeration of which it has been the object;
vines also of this country, of the fruit of which
we saw some specimens, account for the en
grapes which the spies sent out by Moses broug
from the places they had visited." As the t
approached the town of Ameimé, about half way
Petra and Akaba, he fell in with another object
"We observed with astonishment, as we purs
way down the mountain, the ancient aqueduc
conveyed the water from the wells of Gana and
to the town of Ameimé, which was built in the
the road from Petra to Aila. This aqueduct,
ing beyond three leagues [nine miles], follows t
of the surface of the country, above which i
rises. It could only have been by attending mo
fully to the undulations of the soil, and by a rem
proficiency in the scientific operations for taking
that the projectors were enabled to succeed in pre
a regular descent for the waters over so great
tance.

The greater part of the remarkable objects o
tecture seen at Petra and in this quarter, are ob
of an origin no earlier than the period of the
sway over the country, which was at the com
ment of the Christian era. These, therefore,
in the main, the chief curiosities of the district
most surprising objects are those remains of ar
may have been produced several thousands o
before Christ, when the adjacent land of Egypt
one side, and Babylonia on the other, were in a
glory. These remains are excavations in the r
a style much more rude than the sculpturings
Roman and Greek artists, some used for dwellin
others simply inscriptions. One of the vales p
ing towards Petra, in a direction from the Red
called Wady Mokatteb, or Valley of the Written
tains, being inscribed with writing in an u
tongue, in the form of carving, on the face of th
pitous rocks. An account of this remarkable c
of art and antiquity, is given by a Franciscan
who visited the spot in the course of a journey t
the land in 1722. "These mountains," he says
called Gebel el Mokatteb, that is to say, the W
Mountains; for as soon as we quitted the mo
of Faran, we passed along others, during a whol
[a length probably of three miles], which were c
with inscriptions in an unknown character, and ca
these hard rocks of marble, to a height which, i
places, was from ten to twelve feet above the
of the ground; and although we had amongst
who understood the Arabian, Greek, Hebrew,
Coptic, Latin, Armenian, Turkish, English, F
German, and Bohemian languages, there was
of us who had the slightest knowledge of the cha
engraved in these hard rocks with great labou
country where there is nothing to be had either
or drink. Hence, it is probable that these cha
contain some profound secrets, which, long bef
birth of Christ, were sculptured in these rocks
Chaldeans or some other persons." The publica
this account, upwards of a century ago, excited
derable interest in Europe; and Pococke and W
Montague went to Arabia for the purpose of b
home copies of the inscriptions, and this they
plished to a certain extent. In 1762, the king o
mark employed Niebuhr to explore Arabia, bu
cially to copy the inscriptions on Wady Mok
subsequently other travellers brought copies to E
and some were published in the Transactions
Royal Society in London; but till this day the i
tions have baffled every attempt to decipher them
figures composing the inscriptions are partly hie
phic, or representations of men and animals with
or what appear to be words interspersed. Ther
be little doubt that they are the oldest writing
world: their antiquity and signification must
entirely to the imagination of the reader.

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ANCIENT HISTORY OF GREECE AND ROME.

HISTORY OF GREECE.

SITUATION OF THE COUNTRY.

GREECE is a peninsula situated on the northern shore of the Mediterranean, between the Ionian and Ægean seas. It is a beautiful country of hills and valleys, like Wales or the Highlands of Scotland. Some of the hills are so high as to be constantly covered with snow. The vales or low districts enjoy a mild climate, and are of extreme fertility. Some of them, as Tempe and Arcadia, are spoken of with rapture by the poets of ancient times.

As the country is much divided by hills and indentations of the sea, it was parted, from an early period, into several states, which were under separate governments, and often made war upon each other. The southern part of the peninsula, anciently styled the Peloponnesus, and now the Morea, was divided into Laconia (containing the celebrated city of Sparta), Argolis, Achaia, Arcadia, Elis, and Messenia, each of which was only about the size of a moderate English county. Middle Greece (now Levadia), to the north of the Peloponnesus, and connected with it by the isthmus of Corinth, on which lay the city of that name, contained Attica (in which was the city of Athens), Megaris, Bœotia (in which was the city of Thebes), Phocis, Locris, Doris, Ætolia, and Acarnania. Northern Greece contained Thessaly (now the district of Jannina), Epirus (now Albania), and Macedonia (now Filiba Vilajeti), the last of which did not, however, belong to Greece till a comparatively late period.

To the east of Greece Proper lay the numerous islands of the Ægean Sea, otherwise denominated the Archipelago; with which may be included certain islands lying in the Mediterranean Sea in the same direction, the principal of which was Rhodes, Cyprus, and the Cyclades. To the south lay Cythera (now Cerigo) and Crete (now Candia). To the west, in the Ionian Sea, lay Coreyra (now Corfu), Cephalonia, Ithaca, and others, now constituting the distinct confederacy of the Ionian Islands, under protection of Great Britain.

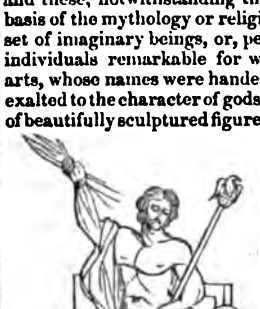
Besides having possession of these various districts on the mainland and islands on both sides of the peninsula, the Greeks, in the course of time, acquired colonies on the coast of Asia Minor, adjacent to the islands in the Ægean Sea. The principal of these foreign possessions, as they may be called, was Ionia, a beautiful and fertile country, the chief city of which was Ephesus.

In consequence of Greece having been divided into a number of petty states, each of which maintained its own political independence, the history of the country necessarily assumes the character of a number of separate narratives. The Greeks, in the different states, did not consider themselves as constituting a single nation or people, although they were in some measure united by similarity of origin, dialect, religion, and manners. It was not, indeed, till a comparatively late period that they had any name for the entire country; the name then assumed was Hellas. The term Grecia (Greece) was conferred by the Romans, and has since been generally used.

EARLY HISTORY AND MYTHOLOGY.

The history of the Grecian states commences above 1800 years before Christ, when the Egyptians on the opposite side of the Mediterranean were in a high state of civilisation; but the portion of history which precedes 884 B. C. is understood to be fabulous, and entitled to little credit. From their situation in a region whose bays, headlands, and islands, present a great extent of sea-coast, habits of adventure and mutual intercourse were produced among the Greeks in the earliest times; these had great influence in cherishing a national activity of character, and making each community eager to rival the prosperity of the others. The people were early accustomed to make voyages, sometimes for traffic, sometimes for war, betwixt the opposite coast of their gulfs, guiding themselves by the stars from island to island; and a curious proof both of their adventurous spirit, and of the difficulties they encountered in their attempts at navigation, is afforded by the tradition which exists in some old poems concerning one of these isles, called Delos, a huge pile of limestone rock, which was frequently used as a sea-mark in the Ægean: this island is said once to have floated about on the waves, and only to have been fixed in its place at last by Jupiter driving a stake through its centre. In the present age, we can understand by this poetical flight that the Greek canoe-men sometimes lost their reckoning, and fell in with the island where they did not expect it.

The accounts given by the poets of this early period of Grecian history, abound in the most ridiculous legends, and these, notwithstanding their absurdity, formed the basis of the mythology or religious belief of the people. A set of imaginary beings, or, perhaps, in some instances, individuals remarkable for warlike genius, or skill in arts, whose names were handed down by tradition, were exalted to the character of gods, and, through the medium of beautifully sculptured figures in marble and ivory, were the objects of reverence and worship. Of these various imaginary beings, Jupiter was reckoned the chief; he was believed to possess the sovereignty of heaven and earth. He is always represented as seated upon a throne, with thunderbolts in his right hand, and an eagle by his side. The wife of Jupiter was Juno, who is described as a beautiful goddess, and is usually depicted as seated in a chariot drawn by two peacocks.



Jupiter.

Next in dignity to Jupiter was Neptune, the god of the ocean, who is painted as a half-naked man, of majestic figure, with a crown on his head, and a trident, or three-pronged fork, in his hand. A third principal deity was Pluto, the god of the infernal regions; he was represented by the Greeks as seated on a throne, with his wife Proserpine by his side, and the three-headed dog Cerberus before him. Apollo was the god of music, poetry, and painting; Bacchus the god of wine; Mars the god of war; Mercury was the messenger of Jupiter, and the god of merchandise and thieving; Cupid the god of love; Minerva the goddess of wisdom; Diana the goddess of hunting; Ceres, the goddess of grain, or of agriculture; Hebe, the goddess of youth; Vulcan, the fabricator of Jupiter's thunderbolts, and the husband of Venus, the goddess of beauty. There were many other gods and goddesses, held more or less in reverence by the Greeks, and to whom worship was given at altars in the temples. There was also a belief in three vengeful females termed Furies, who were impersonations of Grief, Terror, and Madness; also three females of exceedingly elegant figure, termed the Graces, and whose names were Aglaia, Thalia, and Euphrosyne. The nine Muses, or patronesses of the fine arts, were Thalia, Melpomene, Calliope, Clio, Erato, Euterpe, Polyhymnia, Terpsichore, and Urania. They were supposed to reside upon Parnassus, a lofty mountain in the district of Phocis. Thalia presided over comedy; Melpomene over tragedy; Erato over amatory poetry; Polyhymnia over lyrical poetry; Calliope over heroic or epic poetry and eloquence; Clio over history; Euterpe over music; Terpsichore over dancing; and Urania over the study of astronomy. Besides all these imaginary beings, the mythology comprehended a class of demi-gods, as Dryads, or wood-nymphs; Satyrs, or rural deities; and Naiads, or water-nymphs.

Pluto.

The gods were supposed to communicate with men, and to reveal the secrets of futurity by means of oracles, several of which existed in various parts of Greece. The most celebrated of the Grecian oracles was that of Apollo at Delphi, a city built on the slope of Mount Parnassus. At a very remote period it had been discovered that from a deep cavern in the side of that mountain an intoxicating vapour issued, the effect of which was so powerful as to throw into convulsions both men and cattle who inhaled it. Of this natural wonder, the priesthood readily availed themselves. A temple was reared over the spot, and a priestess, named the Pythoness, was appointed, whose office it was to inhale, at stated intervals, the holy vapour. performing this dangerous office, the Pythoness wn into convulsions, during which she uttered ..ries, and these being arranged by the attenists into sentences, were delivered to the people as the prophecies of the oracle, or god. L oracle should be brought into discredit, care general taken by the priest to couch the resp any question put to the Pythoness, in langu obscure and enigmatical, that whatever course the should take, the prediction might not be falsified Greeks were so superstitious as to put implicit this pretended system of prophecy, and the fame oracle of Delphi became so great that no ent was undertaken in any part of Greece without sultation of the Pythoness.

—There is probably some shadow of truth in a the alleged events of early Grecian history. T who lived in the thirteenth century before Chri said to have laid the foundation of the greatness state of Attica, by uniting its twelve cities, and them a common constitution. About his time oc the celebrated *Argonautic Expedition*. This was taken by Jason, a prince of Thessaly, in a vessel *Argo* (hence the name of the expedition); he s Colchis, a place on the east coast of the Euxine o Sea, probably with the design of obtaining g silver, for which that country was remarkable. his companions was a chief named Hercules, a of uncommon strength, and who afterwards w deified by the Greeks. The poets say that P and Helle, the son and daughter of Athamas, Thebes, being compelled to quit their native cou avoid the cruelty of their stepmother, mounted back of a winged ram with a fleece of gold, an carried by this wonderful animal through the air t Colchis, where an uncle of theirs, named Æt king. Unfortunately, as they were passing o strait now called the Dardanelles, which conne Ægean sea with the Propontis, or sea of Ma Helle became giddy, and, falling into the wat drowned. From her, says the fable, the strait future named the Hellespont, or sea of Helle. Phryxus arrived in Colchis, he sacrificed his ram to Jupiter, in acknowledgment of divine pro and deposited its golden fleece in the same deity's He then married the daughter of Æetes, but wa wards murdered by that king, who wished to possession of the golden fleece. To avenge Ph death, Jason, who was his relation, undertook th dition to Colchis, where, after performing severa vellous exploits, he not only obtained the golden but persuaded Medea, another daughter of king to become his wife, and to accompany him Greece.

Seventy years after the Argonautic exp namely, about the year 1194 before Christ, th brated Trojan war was commenced. We lea events connected with this war only through t heroic poems of the Iliad and Odyssey, which a posed to have been composed about the year 90 Christ, by Homer, a blind man who wandered ab country singing his poems for a livelihood. Th is shortly as follows:—Tyndarus, a king of Lace had a daughter Helen, of great beauty, whom T king of Athens, attempted, but without success, from her father. The intelligence of this event re Helen famous, and many of the princes of Greec her in marriage. Tyndarus, however, allow daughter to make choice of a husband, and she upon Menelaus; the successful suitor, on the d Tyndarus, was raised to the Spartan throne. after this apparently happy union, Paris, a son of king of Troy, a small state in Asia Minor, came t at the court of Menelaus, and there perfidiously Helen to elope with him. Wroth at this baseness, laus summoned various forces to his aid, and on a warlike expedition to Troy. Of the chiefs bled on this occasion, the most celebrated were memnon, king of Mycenæ; Menelaus, king of Ulysses, king of Ithaca; Nestor, king of Pylos; A son of the king of Thessaly; Ajax, of Salamis medes, of Ætolia; and Idomeneus, of Crete combined forces, on landing in the Trojan ter

commenced a regular siege of the city of Troy. Many skirmishes took place, and there was great slaughter on both sides; the Trojans were led generally in their attacks by the valiant Hector, eldest son of Priam. At length, after a siege of ten years, Troy was taken, its inhabitants slaughtered, and its edifices burnt to the ground. The Greek princes, however, paid dearly for their triumph by subsequent sufferings, and the disorganisation of their kingdoms at home. Ulysses, if we may believe Homer, spent ten years in wandering over seas and lands before arriving in his island of Ithaca; and others of the leaders died, or were shipwrecked, on their way home.

In the course of the eleventh century before Christ, the Greeks began to plant colonies in neighbouring countries. The first colonists, as usually happens in the present day, were dissatisfied citizens, who thought they could form happier communities elsewhere. The Æolians founded twelve cities in Asia Minor, the chief of which was Smyrna. The Dorians sent off colonies to Italy and Sicily, founding, in the former, Tarentum and Locri, and in the latter Agrigentum and Syracuse. In the new settlements the political system was eminently democratic; and for a long time they enjoyed great prosperity. This prosperity being ascribed at home to their popular institutions, had afterwards the effect of inciting many of the parent states to change their monarchical for a democratic form of government.

SECOND OR AUTHENTIC PERIOD OF HISTORY.

The second and authentic period of Greek history commences in the year 884 B. C., at the institution of the Olympic festival, when the people had begun to emerge from their primitive barbarism. The Olympic festival was instituted by direction of the Delphic oracle, by Iphitus, prince of Eleia or Elis, for the patriotic purpose of assembling together, in a peaceful manner, persons from all parts of Greece. The festival was ordained to take place once every four years, in the month corresponding to our July, and to last five days, during which there was to be complete truce, or cessation from war, throughout the Grecian states. Agreeably to the ancient practice at public solemnities, the festival was celebrated by games and various feats of personal skill, and the whole order of procedure was regulated with extraordinary care. All freemen of Grecian extraction were invited to contend, provided they had been born in lawful wedlock, and had lived untainted by any infamous moral stain. No women (the priestesses of Ceres excepted) were permitted to be present. Females who violated this law were thrown from a rock. The competitors prepared themselves during ten months previous at the gymnasium at Elis. During the last thirty days, the exercises were performed with as much regularity as at the games themselves. The festival began in the evening with solemn sacrifices, and the games were commenced the next day at daybreak. These consisted in races on horseback and on foot, in leaping, throwing the discus or quoit, wrestling, and boxing; musical and poetical contests concluded the whole. The honour of having gained a victory in the Olympic games was very great; it extended from the victor to his country, which was proud of owning him. However rude and boisterous were some of the sports of the Olympic festival, it is acknowledged by the best authorities that they were attended with manifold advantages to society. It is sufficient barely to mention the suspension of hostilities, which took place not only during the festival, but a considerable time both before and after it. Considered as a kind of religious ceremony, at which the whole Grecian citizens were invited, and even enjoined, to assist, it was well adapted to facilitate intercourse, to promote knowledge, to soften prejudice, and to hasten the progress of civilisation and humanity. The date of the establishment of the Olympic games (884 B. C.) was afterwards assumed by the Greeks as the epoch from which they reckoned the progress of time, the four years intervening between each recurrence of the festival being styled an Olympiad.

At the first institution of the Olympic festival, and for one or two centuries afterwards, the condition of Grecian society was primitive and almost patriarchal, but marked by strong features of heroic dignity, and a certain depth and refinement of thought. The attire of the men was very simple, consisting only of a shirt or close jacket to the body, with a loose robe hanging down over the naked limbs, while performers in the public games were almost naked. The arts, including agriculture, were also little advanced; few persons seemed to have thought of toiling to accumulate wealth; and each community presented, in time of peace, the picture of a large family. That portion of the people constituting the freemen lived much in public, or in the society of their equals, enjoyed common pleasures and amusements, and had daily opportunities of displaying their useful talents in the sight of their fellow-citizens. The frequent disputes between individuals occasioned litigations and trials, which furnished employment for the eloquence and ability of men, in the necessary defence of their friends. The numerous games and public solemnities opened a continual source of entertainment, and habituated every man to active physical exercise and the performance of his duties as a soldier. These were agreeable features in the condition of Grecian society; but there were also some of a contrary kind. The people were of an unsettled disposition, never satisfied long with any kind of government which existed amongst them, and very much disposed to war against neighbouring states on the most trifling pretences.

The population of the various states was divided into three classes, namely, the citizens, the enfranchised populace, and the slaves. All political power, even in the most democratical of the Grecian communities, was possessed by the first of these classes, while in the oligarchical states only that small portion of the citizens which constituted the nobility or aristocracy, possessed any influence in the management of public affairs. The mechanical and agricultural labours necessary for the support and comfort of the whole, were chiefly performed by the inferior class of free inhabitants, who did not enjoy the privilege of citizenship, and by the slaves, who formed a considerable portion of the population of every state. These slaves were sprung from the same general or parent stock, spoke the same language, and professed the same religion, as their masters. They were, in most cases, the descendants of persons who had been conquered in war, but were in some instances acquired by purchase. Society being thus based on vicious principles, it is not wonderful that the Grecian states were the scene of constant civil broils.

Sparta—Lycurgus.

At the beginning of this period of Grecian history, our attention is powerfully attracted by a very remarkable series of proceedings which took place in Lacedæmon, or Laconia, a country of Southern Greece, of which the chief city was Sparta. This city being in a state of intestine disorder, it was agreed by many of the inhabitants to invite Lycurgus, the son of one of their late kings, to undertake the important task of preparing a new constitution for his country. Fortified with the sanction of the Delphic oracle, he commenced this difficult duty, not only settling the form of government but reforming the social institutions and manners of the people. The government he established consisted of two joint kings, with a limited prerogative, and who acted as presidents of a senate of twenty-eight aged men. The functions of the senate were deliberative as well as executive, but no law could be passed without receiving the consent of the assembled citizens. The most remarkable of the arrangements of Lycurgus, was his attempt to abolish difference of rank, and even difference of circumstances, among the people. He resolved on the bold measure of an equal division of lands, and actually parcelled out the Laconian territory into thirty-nine thousand lots, one of which was given to each citizen of Sparta, or free

inhabitant of Laconia. Each of these lots was of such a size as barely sufficed to supply the wants of a single family, for Lycurgus was determined that no person should be placed in such circumstances as would permit of luxurious living.

Lycurgus carried into effect a number of other visionary projects; he abolished the use of money, with the hope of preventing undue accumulation of wealth; prohibited foreigners from entering the country, and the natives from going abroad, in order to preserve simplicity of manners among the people; directed that all men, without distinction of rank or age, should eat daily together at public tables, which were furnished with the plainest food; and finally ordained that all the children who were born, and seemed likely to be strong, should be reared by public nurses, under a rigid system of privation and personal activity, while the weak infants should be thrown out to the fields to perish. The citizens, when they had attained the age of manhood, were engaged in martial exercises, all labour being left to the slaves, or *helots*, as they were termed; and, in short, the whole nation was but a camp of soldiers, and war was reckoned the only legitimate profession. These laws were in some measure suited to the rude condition of the Spartans, but, as being opposed to some of the best and strongest principles in human nature, they could not possibly endure, and there is reason to believe that some of them were not strictly enforced. It is not unusual to see historians use the term *Spartan virtue* with a certain degree of admiration of its quality, but the Spartans had in reality no moral dignity, certainly no benevolence, in their virtue, either public or private. They were a small confederacy of well-trained soldiers, and, merely as such, deserve no mark of our respect or esteem. The manner in which they used their helots was at once barbarous and cruel. The murder of a serf by a free citizen was not punishable by law; nay, it was even allowable for the young Spartans to lie in wait, as a kind of sport, for any good-looking or saucy-looking slave, and stab him to the heart on the highway. It is certain, that at one time, when the helots had stood their masters in good stead in battle, they were desired, by way of reward, to choose out 2000 of their best men, that they might receive their freedom, and be enrolled as Spartans, and that these 2000 men were all silently murdered soon after. At another time, when danger was apprehended from the growing numbers and petty wealth of the boors, the senate enacted the farce of declaring war against them, and coolly murdered many thousands, in order to thin their numbers and break their spirit. Had there been any redeeming trait in the Spartan character to compensate for such barbarity, one would have wondered less at the respect which is sometimes paid them; but their military fame only adds another instance to the many already on record, that the most ignorant and savage tribes make the most dogged soldiers.

Athens.

We now turn to Athens, the capital of Attica, and long the principal seat of Grecian learning and refinement. Athens is said to have been founded by Cecrops, 1550 B. C., and in the most ancient times was called Cecropia, which name, in after times, was retained merely in the Acropolis, a citadel situated on a rocky mount overhanging the town. It probably received the name of Athens from the goddess Minerva, who was called also Athena by the Greeks, and to whom an elegant temple had been erected in the city. The old city spread from the mount of the Acropolis over a wide and pleasant vale or low peninsula, formed by the junction of the Cephesus and Ilissus. Its distance from the sea-coast was about five miles. In the course of time, Athens became populous and surpassingly elegant in its architecture, while its citizens contrived to take a lead in the affairs of the communities around. At first they were governed by kings, but, as in the case of the Spartan citizens, they became dissatisfied with their existing constitution, and about the year 600 B. C. invited Solon, one of the wisest men in Greece, to reorg their political constitution. Solon obeyed the summ and constituted the government on a broad republ basis. a council of state, forming a judicial c of and called the Areop of besides its other duties, exercised a censorship over public morals, and was powered to punish impiety, profligacy, and even idl To this court every citizen was bound to make an a statement of his income, and the sources from which derived. The court was long regarded with very respect, and the right was accorded to it of not on vising the sentences pronounced by the other cri tribunals, but even of annulling the judicial decr the general assembly of the people. The regulatio Solon were not maintained for any great length of although the republican form of government, in shape or other, continued as long as the country r tained its independence. Clesthenes, the leader party, enlarged the democratic principle in the s he introduced the practice of *ostracism*, by whic person might be banished for ten years without accused of any crime, if the Athenians apprehe that he had acquired too much influence, or harbo designs against the public liberty. This sentenc called ostracism, because the citizens, in voting f infliction, wrote the name of the obnoxious indiv upon a shell. It is said that Clesthenes was the victim of his own law, as has chanced in several remarkable cases.

For a period of about two centuries after the e ment of a republican constitution, there is little o portance to relate in Athenian history. Athens gradually enlarged, the taste for refinement increa and various men of sagacious understanding, cal philosophers, began to devote themselves to inqu into the nature of the human mind and the char of the Deity. The principal Grecian philosopher flourished in this era (550 B. C.) was Pythagoras, a of pure and exalted ideas, and an able expounde the science of mind.

THIRD PERIOD OF HISTORY.

Persian Invasion.

The year 490 B. C. closes the gradually imper period in Grecian history—or second period, as it been termed—and now commenced an era marke the important event of an invasion from a pow Asiatic sovereign. Darius, king of Persia, h imagined the possibility of conquering Greece, se immense army against it in the year just mentio Greatly alarmed at the approach of such an enemy Athenians applied to the Spartans for aid, but people had a superstition which prohibited their t the field before the moon was at the full; and a the time of the application, it still wanted five da that period, they therefore delayed the march of troops. Being thus refused all assistance from neighbours, the Athenians were left to depend on on their own courage and resources. A more rem able instance of a small state endeavouring to oppos wicked aggression of an overgrown power, has n occurred in ancient or modern times; but the con exercises and training of the Athenian popul enabled them to present a bold, and by no means temptible, front to the invader. War had been principal employment, and in the field they displ their noblest qualities. They were unacquainted those highly disciplined evolutions which give har and concert to numerous bodies of men; but when wanting in skill they supplied by courage. The A nian, and also other Greek soldiers, marched to field in a deep phalanx, rushed impetuously to attack, and bravely closed with their enemies. warrior was firmly opposed to his antagonist, and pelled by necessity to the same exertions of valo if the fortune of the day had depended on his s arm. The principal weapon was a spear, which, th by the nervous and well-directed vigour of a st

hand, often penetrated the firmest shields and bucklers. When they missed their aim, or when the stroke proved ineffectual through want of force, they drew their swords, and summoning their utmost resolution, darted impetuously on the foe. This mode of war was common to the soldiers and generals, the latter being as much distinguished in battle by their strength and courage as their skill and conduct. The Greeks had bows, slings, and darts, intended for the practice of distant hostility; but their chief dependence was on the spear and sword. Their defensive armour consisted of a bright helmet, adorned with plumes, and covering the head, a strong

casket defending the breast, greaves of brass descending the leg to the feet, and an ample shield, loosely attached to the left shoulder and arm, which turned in all directions, and opposed its firm resistance to every hostile assault. With men thus organised and accoutred, a battle consisted of so many duels, and the combatants fought with all the keenness of personal resentment; the slaughter in such engagements was correspondingly great, the fight seldom terminating till one party was nearly destroyed, or at least greatly reduced in numbers.

It was a people so animated and prepared that the hosts of Persia were about to encounter. Compelled to meet the invaders unassisted, the Athenians were able to march an army of only 9000 men, exclusive of about as many light-armed slaves, into the field. With Miltiades as their leader and commander-in-chief, they met the Persians in battle on the plain of Marathon, thirty miles from Athens, and by great skill and courage, and the force of their close phalanx of spearmen, completely conquered them. Upwards of 6000 Persians were slain on the field, while the number killed of the Athenians was but 192. This is reckoned by historians one of the most important victories in ancient times, for it saved the independence of the whole of Greece. To the disgrace of the fickle Athenians, they afterwards showed the greatest ingratitude to Miltiades, and put him in prison on a charge of favouring the Persians. He died there, the year after his great victory. Soon after, the citizens of Athens, on a plea equally unfounded, banished Aristides, an able leader of the aristocratic party in the state, and who, from his strict integrity and wisdom, was usually entitled "Aristides the Just." On the banishment of this eminent individual, Themistocles, a person who was more democratic in his sentiments, became the leader of the councils of the Athenians. Meanwhile, the Grecian liberties were again menaced by the Persians. Xerxes, son of Darius, marched an army across the Hellespont by a bridge of boats from the Asiatic shore, and led it towards the southern part of Greece. The utmost force that the confederated Greeks could oppose to the countless host of Persians, did not exceed 60,000 men. Of these, a band of Spartans, numbering 8000 soldiers, under Leonidas their king, was posted at the pass of Thermopylæ, to intercept the enemy, and here they discomfited every successive column of the Persians as it entered the defile. Ultimately, foreseeing certain destruction, Leonidas commanded all to retire but three hundred, with whom he proposed to give the Persians some idea of what the Greeks could submit to for the sake of their country. He and his three hundred were cut off to a man. Xerxes took possession of Attica and Athens, but in the naval battle with the Athenian fleet at Salamis which occurred soon after (October 20, 480 B. C.), his army was utterly routed, and its scattered remains retreated into Asia.

By this splendid victory, the naval power of Persia was almost annihilated, and the spirit of its monarch so completely humbled, that he durst no longer undertake offensive operations against Greece. Here, therefore, the war ought to have terminated; but so great and valuable had been the spoils obtained by the confederates, that they were unwilling to relinquish the profitable contest. The war, therefore, was continued for twenty years longer, less, apparently, for the chastisement of Persia than for the plunder of her conquered provinces.

But now that all danger was over, many of the smaller states, whose population was scanty, began to grow weary of the contest, and to furnish with reluctance their annual contingent of men to reinforce the allied fleet. It was, in consequence, arranged that those states whose citizens were unwilling to perform personal service, should send merely their proportion of vessels, and pay into the common treasury an annual subsidy, for the maintenance of the sailors with whom the Athenians undertook to man the fleet. The unforeseen but natural consequence of this was the establishment of the complete supremacy of Athens. The annual subsidies gradually assumed the character of a regular tribute, and were compulsorily levied as such; while the recusant communities, deprived of their fleets, which had been given up to the Athenians, were unable to offer effectual resistance to the oppressive exactions of the dominant state. The Athenians were thus raised to an unprecedented pitch of power and opulence, and enabled to adorn their city, to live in dignified idleness, and to enjoy a constant succession of the most costly public amusements, at the expense of the vanquished Persians, and of the scarcely more leniently treated communities of the dependent confederacy.

Pericles.

We have arrived at the most flourishing period of Athenian history, during which Pericles rose to distinction, and greatly contributed to the beautifying of the capital. The talents of Pericles were of the very first order, and they had been carefully cultivated by the ablest tutorage which Greece could afford. After serving for several years in the Athenian army, he ventured to take a part in the business of the popular assembly, and his powerful eloquence soon gained him an ascendancy in the national councils; and his power, in fact, became as great as that of an absolute monarch. (445 B. C.) Some of the most interesting events of Grecian history now occurred. After a number of years of general peace, a dispute between the state of Corinth and its dependency the island of Corcyra (now Corfu), gave rise to a war which again disturbed the repose of all the Grecian states. Corcyra was a colony of Corinth, but having, by its maritime skill and enterprise, raised itself to a higher pitch of opulence than its parent city, it not only refused to acknowledge Corinthian supremacy, but went to war with that state on a question respecting the government of Epidamnus, a colony which the Corcyreans had planted on the coast of Illyria. Corinth applied for and obtained aid from several of the Peloponnesian states to reduce the Corcyreans to subjection; while Corcyra, on the other hand, concluded a defensive alliance with Athens, which sent a fleet to assist the island in vindicating its independence. By way of punishing the Athenians for intermeddling in the quarrel, the Corinthians stirred up a revolt in Potidæa, a town of Chalcidice, near the confines of Macedonia, which had originally been a colony of Corinth, but was at this time a tributary of Athens. The Athenians immediately dispatched a fleet and army for the reduction of Potidæa, and the Peloponnesians were equally prompt in sending succours to the city. The Corinthians, meanwhile, were actively engaged in endeavouring to enlist in their cause those states which had not yet taken a decided part in the

dispute. To Lacedæmon, in particular, they sent ambassadors to complain of the conduct of the Athenians, which they characterised as a violation of an universally recognised law of Grecian policy, that no state should interfere between another and its dependencies. The efforts of the Corinthians were successful, and almost all the Peloponnesian states, headed by Sparta, together with many of those beyond the isthmus, formed themselves into a confederacy for the purpose of going to war with Athens. Argos and Achaia at first remained neuter. Corcyra, Acarnania, some of the cities of Thessaly, and those of Platæa and Naupactus, were all that took part with the Athenians.

Pericles beheld without dismay the gathering of the storm, but his countrymen were not equally undaunted. They perceived that they were about to be called upon to exchange the idle and luxurious life they were at present leading for one of hardship and danger, and they began to murmur against their political leader for involving them in so alarming a quarrel. They had not at first the courage to impeach Pericles himself, but vented their displeasure against his friends and favourites. Phidias, a very eminent sculptor, whom the great statesman had appointed superintendant of public buildings, was condemned to imprisonment on a frivolous charge; and the philosopher Anaxagoras, the preceptor and friend of Pericles, was charged with disseminating opinions subversive of the national religion, and banished from Athens. Respecting another celebrated individual who at this time fell under persecution, it becomes necessary to say a few words. Aspasia of Miletus was a woman of remarkable beauty and brilliant talents, but she wanted that chastity which is the greatest of feminine graces, and by her dissolute life was rendered a reproach, as she would otherwise have been an ornament, to her sex. This remarkable woman, having come to reside in Athens, attracted the notice of Pericles, who was so much fascinated by her beauty, wit, and eloquence, that, after separating from his wife, with whom he had lived unhappily, he married Aspasia. It was generally believed, that, for the gratification of a private grudge, she had instigated Pericles to quarrel with the Peloponnesian states, and her unpopularity on this score was the true cause of her being now accused, before the assembly of the people, of impiety and grossly immoral practices. Pericles conducted her defence in person, and pled for her with so much earnestness that he was moved even to tears. The people, either finding the accusations to be really unfounded, or unable to resist the eloquence of Pericles, acquitted Aspasia. His enemies next directed their attack against himself. They accused him of embezzling the public money; but he completely rebutted the charge, and proved that he had drawn his income from no other source than his private estate. His frugal and unostentatious style of living must have, of itself, gone far to convince the Athenians of the honesty with which he had administered the public affairs; for while he was filling the city with temples, porticoes, and other magnificent works of art, and providing many costly entertainments for the people, his own domestic establishment was regulated with such strict attention to economy, that the members of his family complained of a parsimony which formed a marked contrast to the splendour in which many of the wealthy Athenians then lived.

Confirmed in his authority by this triumphant refutation of the slanders of his enemies, Pericles adopted the wisest measures for the public defence against the invasion which was threatened by the Peloponnesians. Unwilling to risk a battle with the Spartans, who were esteemed not less invincible by land than the Athenians were by sea, he caused the inhabitants of Attica to transport their cattle to Eubœa and the neighbouring islands, and to retire, with as much of their other property as they could take with them, within the walls of Athens. By his provident care the city was stored with provisions sufficient for the support of the multitudes which now crowded it; but greater difficulty was found in furnishing proper accommodation for such a population. Many found lodgings in the towers and other public edifices, or in the turrets on the walls, and great numbers were obliged to construct themselves temporary abodes in the vacant spaces between the long walls extending between the city and the port of Piræus.

The memorable contest of twenty-seven years' duration, called "the Peloponnesian war," now commenced (431 B. C.) The Spartan king, Archidamus, entered Attica at the head of a large army of the confederates, and, meeting with no opposition, proceeded along the eastern coast, burning the towns and laying waste the country in his course. When the Athenians saw the enemy ravaging the country almost up to their walls, it required all the authority of Pericles to keep them within their fortifications. While the confederates were wasting Attica with fire and sword, the Athenian and Corcyræan fleets were, by the direction of Pericles, avenging the injury, by ravaging the almost defenceless coasts of the Peloponnesus. This, together with the scarcity of provisions, soon induced Archidamus to lead his army homewards. He retired by the western side of Attica, continuing the work of devastation as he passed along.

Early in the summer of the following year, the confederates returned to Attica, which they were again permitted to ravage at their pleasure, as Pericles still adhered to his cautious policy of confining his efforts to the defence of the capital. But an enemy far more terrible than the Peloponnesians attacked the unfortunate Athenians. A pestilence, supposed to have originated in Ethiopia, and which had gradually spread over Egypt and the western parts of Asia, broke out in the town of Piræus, the inhabitants of which at first supposed their wells to have been poisoned. The disease rapidly advanced into Athens, where it carried off a great number of persons. It is described as having been a species of infectious fever, accompanied by many painful symptoms, and followed, in those who survived the first stages of the disease, by ulcerations in the bowels and limbs. Historians mention, as a proof of the singular virulence of this pestilence, that the birds of prey refused to touch the unburied bodies of the victims, and that all the dogs which fed upon the pernicious relics perished. The mortality was dreadful, and was, of course, greatly increased by the overcrowded state of the city. The prayers of the devout, and the skill of the physicians, were found equally unavailing to stop the progress of the disease, and the miserable Athenians, reduced to despair, believed themselves to be forgotten or hated by their gods. The sick were in many cases left unattended, and the bodies of the dead allowed to lie unburied, while those whom the plague had not yet reached, openly set at defiance all laws human and divine, and rushed into every excess of criminal indulgence.

Pericles was in the mean time engaged, with a fleet of 150 ships, in wasting with fire and sword the shores of the Peloponnesus. At his return to Athens, finding that the enemy had hastily retired from Attica, through fear of the contagion of the plague, he dispatched a fleet to the coast of Chalcidice, to assist the Athenian land forces who were still engaged in the siege of Potidæa—an unfortunate measure, productive of no other result than the communication of the pestilence to the besieging army, by which the majority of the troops were speedily swept away. Maddened by their sufferings, the Athenians now became loud in their murmurings against Pericles, whom they accused of having brought upon them at least a portion of their calamities, by involving them in the Peloponnesian war. An assembly of the people was held, in which Pericles entered upon a justification of his conduct, and exhorted them to courage and perseverance in defence of their independence. The hardships to which they had been exposed by the plague were, he observed, only such as he had in former addresses prepared them to expect; and as for the pestilence, it was a calamity which no human prudence

either have foreseen or averted. He reminded them that they still possessed a fleet which that of no potentate on earth could equal or cope with, and that, after the present evil should have passed away, their navy might yet enable them to acquire universal empire. "What we suffer from the gods," continued he, "we should bear with patience; what from our enemies, with manly firmness; and such were the maxims of our forefathers. From unshaken fortitude in misfortune has arisen the present power of this commonwealth, together with that glory, which, if our empire, according to the lot of all earthly things, decay, shall still survive to all posterity."

The eloquent harangue of Pericles diminished, but did not remove, the alarm and irritation of the Athenians, and they not only dismissed him from all his offices, but imposed upon him a heavy fine. Meanwhile, domestic afflictions were combining with political anxieties and mortifications to oppress the mind of this eminent man, for the members of his family were one by one perishing by the plague. Still, however, he bore himself up, with a fortitude which was witnessed with admiration by all around him; but at the funeral of the last of his children, his firmness at length gave way; and while he was, according to the custom of the country, placing a garland of flowers on the head of the corpse, he burst into loud lamentations, and shed a torrent of tears. It was not long till his mutable countrymen repented of their harshness towards him, and reinvested him with his civil and military authority. He soon after followed his children to the grave, falling, like them, a victim to the prevailing pestilence (429 B. C.) The concurrent testimony of the ancient writers assigns to Pericles the first place among Grecian statesmen for wisdom and eloquence. Though ambitious of power, he was temperate in its exercise; and it is creditable to his memory, that, in an age and country so little scrupulous in the shedding of blood, his long administration was as merciful and mild as it was vigorous and effective. When constrained to make war, the constant study of this eminent statesman was how to overcome his enemies with the least possible destruction of life, as well on their side as on his own. It is related, that when he was lying at the point of death, and while those who surrounded him were recounting his great actions, he suddenly interrupted them by expressing his surprise that they should bestow so much praise on achievements in which he had been rivalled by many others, while they omitted to mention what was his highest and peculiar honour, namely, *that no act of his had ever caused any Athenian to put on mourning.*

After the death of Pericles, the war was continued without interruption for seven years longer, but with no very decisive advantage to either side. During this period the Athenian councils were chiefly directed by a coarse-minded and unprincipled demagogue, named Cleon, who was at last killed in battle under the walls of Amphipolis, a Macedonian city, of which the possession was disputed by the Athenians and Lacedæmonians. Cleon was succeeded in the direction of public affairs by Nicias, the leader of the aristocratical party, a man of virtuous but unenterprising character, and a military officer of moderate abilities. Under his auspices a peace for fifty years, commonly known by the name of the "peace of Nicias," was concluded in the tenth year of the war (421 B. C.) It was not long, however, till the contest was resumed. Offended that its allies had given up a contest undertaken for the assertion of its alleged rights, Corinth refused to be a party to the treaty of peace, and entered into a new quadruple alliance with Argos, Elis, and Mantinæa, a city of Arcadia; the ostensible object of which confederation was the defence of the Peloponnesian states against the aggressions of Athens and Sparta. This end seemed not difficult of attainment, as fresh distrusts had arisen between the two last-mentioned republics, on account of the reluctance felt and manifested by both to give up certain places which they had bound themselves by treaty mutually to surrender. The jealousies thus excited, were fanned into a violent flame by the artful measures of Alcibiades, a young Athenian, who now began to rise into political power, and whose genius and character subsequently exercised a strong influence upon the affairs of Athens.

Alcibiades.

Alcibiades was the son of Clinias, an Athenian of high rank. Endowed with uncommon beauty of person, and talents of the very highest order, he was, unfortunately, deficient in that unbending integrity, which is an essential element of every character truly great, and his violent passions sometimes impelled him to act in a manner which has brought disgrace on his memory. While still very young, Alcibiades served in the Athenian army, and became the companion and pupil of Socrates, one of the wisest and most virtuous of the Grecian sages. Having rendered some service to his country in a protracted and useless war with Lacedæmon, and being possessed of a talent for addressing the passions of the multitude, Alcibiades, as others had done before him, became the undisputed head of public affairs in Athens. But this pre-eminence was not of long continuance. An opinion arose among the people that he designed to subvert the constitution, and his fall was as quick as his promotion. Many of his friends were put to death, and he, while absent on an expedition, deprived of his authority. Being thus left without a public director of affairs, Athens, as usual, was torn by internal discords; the aristocratic faction succeeded in overthrowing the democratical government (411 B. C.), and establishing a council of 400 individuals to administer the affairs of the state, with the power of convoking an assembly of 5000 of the principal citizens for advice and assistance in any emergency. These 400 tyrants, as they were popularly called, were no sooner invested with authority, than they annihilated every remaining portion of the free institutions of Athens. They behaved with the greatest insolence and severity towards the people, and endeavoured to confirm and perpetuate their usurped power, by raising a body of mercenary troops in the islands of the Ægean, for the purpose of overawing and enslaving their fellow-citizens. The Athenian army was at this period in the island of Samos, whither it had retired after an expedition against the revolted cities of Asia Minor. When intelligence arrived of the revolution in Athens, and the tyrannical proceedings of the oligarchical faction, the soldiers indignantly refused to obey the new government, and sent an invitation to Alcibiades to return among them, and assist in re-establishing the democratical constitution. He obeyed the call; and as soon as he arrived in Samos, the troops elected him their general. He then sent a message to Athens, commanding the 400 tyrants to divest themselves immediately of their unconstitutional authority, if they wished to avoid deposition and death at his hands.

This message reached Athens at a time of the greatest confusion and alarm. The 400 tyrants had quarrelled among themselves, and were about to appeal to the sword; the island of Eubœa, from which Athens had for some time been principally supplied with provisions, had revolted, and the fleet which had been sent to reduce it had been destroyed by the Lacedæmonians, so that the coasts of Attica, and the port of Athens itself, were now without defence. In these distressing circumstances, the people, roused to desperation, rose upon their oppressors, overturned the government of the 400, after an existence of only a few months, and re-established their ancient institutions. Alcibiades was now recalled; but before revisiting Athens, he was desirous of performing some brilliant military exploit, which might obliterate the recollection of his late connection with the Spartans, and give his return an air of triumph. He accordingly joined the Athenian fleet, then stationed at the entrance of the Hellespont, and soon obtained several important victories over the Lacedæmonians, both by sea and land. He then returned to Athens, where he was received with transports of joy. Chaplets of flowers were showered upon

his head, and amidst the most enthusiastic acclamations he proceeded to the place of assembly, where he addressed the people in a speech of such eloquence and power, that, at its conclusion, a crown of gold was placed upon his brows, and he was invested with the supreme command of the Athenian forces, both naval and military. His forfeited property was restored, and the priests were directed to revoke the curses which had formerly been pronounced upon him.

This popularity of Alcibiades was not of long continuance. Many of the dependencies of Athens being in a state of insurrection, he assumed the command of an armament intended for their reduction. But circumstances arose which obliged him to leave the fleet for a short time in charge of one of his officers, named Antiochus, who, in despite of express orders to the contrary, gave battle to the Lacedæmonians during the absence of the commander-in-chief, and was defeated. When intelligence of this action reached Athens, a violent clamour was raised against Alcibiades; he was accused of having neglected his duty, and received a second dismissal from all his offices. On hearing of this, he quitted the fleet, and, retiring to a fortress he had built in the Chersonesus of Thrace, he collected around him a band of military adventurers, with whose assistance he carried on a predatory warfare against the neighbouring Thracian tribes.

Alcibiades did not long survive his second disgrace with his countrymen. Finding his Thracian residence insecure, on account of the increasing power of his Lacedæmonian enemies, he crossed the Hellespont and settled in Bithynia, a country on the Asiatic side of the Propontis. Being there attacked and plundered by the Thracians, he proceeded into Phrygia, and placed himself under the protection of Pharnabasus, the Persian satrap of that province. But even thither the unfortunate chief was followed by the unrelenting hatred of the Lacedæmonians, by whose directions he was privately and foully assassinated. Thus perished, about the fortieth year of his age (403 B. C.), one of the ablest men that Greece ever produced. Distinguished alike as a warrior, an orator, and a statesman, and in his nature noble and generous, Alcibiades would have been truly worthy of our admiration if he had possessed probity; but his want of principle, and his unruly passions, led him to commit many grievous errors, which contributed not a little to produce or aggravate those calamities which latterly overtook him.

DECLINE OF ATHENIAN INDEPENDENCE.

With Alcibiades perished the last of the great men who possessed the power to sway the wild democracy, or, properly speaking, the mob of Athens. From the period of his death till the subjugation of the country, the Athenian people were at the mercy of contending factions, and without a single settled principle of government. During this brief period of their history, in which a kind of popular democracy had attained the command of affairs, happened the trial and condemnation of Socrates, an eminent teacher of morals, and a man guiltless of every offence but that of disgracing, by his illustrious merit, the vices and follies of his contemporaries. On the false charge of corrupting the morals of the pupils who listened to his admirable expositions, and of denying the religion of his country, he was, to the eternal disgrace of the Athenians, compelled to die by drinking poison, a fate which he submitted to with a magnanimity which has rendered his name for ever celebrated. This odious transaction occurred in the year 400 B. C.

After the death of this great man, the political independence of Athens drew to its termination—a circumstance which cannot excite the least surprise, when we reflect on the turbulence of its citizens, their persecution of virtue and talent, and their unhappy distrust of any settled form of government. Their ruin was finally accomplished by their uncontrollable thirst for war, and can create no emotions of pity or regret in the reader of their distracted history. The Lacedæmoi under the command of an able officer named Lysa attacked and totally destroyed the Athenian fleet. this means having obtained the undisputed com of the sea, Lysander easily reduced those citi the coasts of Thrace and Asia Minor, and those is of the Ægean, which still acknowledged the s macy of Athens. Having thus stripped that lordly state of all its dependencies, he proceed blockade the city of Athens itself. The Athe made a heroic defence; but after a lengthened during which they suffered all the horrors of fa they were obliged to surrender on such conditio their enemies thought fit to impose (404 B. C.) Spartans demanded that the fortifications of Pi and the long walls which connected it with the should be demolished; that the Athenians shoul linquish all pretensions to authority over their fo tributaries, recall the exiled partisans of the 400 ty acknowledge the supremacy of Sparta, and foll commanders in time of war; and, finally, that should adopt such a political constitution as should the approbation of the Lacedæmonians. Thus sar power of Athens, which had so long been the le state of Greece, and thus terminated the Peloponn war, in which the Grecian communities had be long engaged, to little other purpose than to wast strength and exhaust the resources of their cor country.

Condition of Athens.

During the age preceding its fall, Athens, as al mentioned, had been greatly beautified and enlarg Pericles. At the same time, the comparative si city of manners which formerly prevailed, wa changed for luxurious habits. This alteratio been described by an able historian.* "In the c of a few years, the success of Aristides, Cimon Pericles, had tripled the revenues, and increased far greater proportion the dominions of the rep The Athenian galleys commanded the eastern coa the Mediterranean; their merchantmen had engr the traffic of the adjacent countries; the magazi Athens abounded with wood, metal, ebony, ivory all the materials of the useful as well as of the a able arts; they imported the luxuries of Italy, S Cyprus, Lydia, Pontus, and Peloponnesus; exper had improved their skill of working the silver mi mount Laurium; they had lately opened the val marble veins in mount Pentelicus; the honey of Hy tus became important in domestic use and foreign tr the culture of their olives (oil being long their s commodity, and the only production of Attica v Solon allowed them to export) must have impr with the general improvement of the country ir and agriculture, especially under the active admin tion of Pericles, who liberally let loose the public sure to encourage every species of industry.

But if that minister promoted the love of actio found it necessary at least to comply with, if not t cite, the extreme passion for pleasure, which then b to distinguish his countrymen. The people of At successful in every enterprise against their forei well as domestic enemies, seemed entitled to rea fruits of their dangers and victories. For the spa at least twelve years preceding the war of Peloponn their city afforded a perpetual scene of triumph festivity. Dramatic entertainments, to which they passionately addicted, were no longer performed in s unadorned edifices, but in stone or marble the erected at great expense, and embellished with most precious productions of nature and of art. treasury was opened, not only to supply the decora of this favourite amusement, but to enable the pc citizens to enjoy it, without incurring any privat pense; and thus, at the cost of the state, or rath its tributary allies and colonies, to feast and de their ears and fancy with the combined charms of n

* History of Ancient Greece, by J. Gillies.

and poetry. The pleasure of the eye was peculiarly consulted and gratified in the architecture of theatres and other ornamental buildings; for as Themistocles had strengthened, Pericles adorned, his native city; and unless the concurring testimony of antiquity was illustrated in the Parthenon, or Temple of Minerva, and other existing remains worthy to be immortal, it would be difficult to believe that in the space of a few years there could have been created those numerous yet inestimable wonders of art, those temples, theatres, statues, altars, baths, gymnasia, and porticoes, which, in the language of ancient panegyric, rendered Athens the eye and light of Greece.

Pericles was blamed for thus decking one favourite city, like a vain voluptuous harlot, at the expense of plundered provinces; but it would have been fortunate for the Athenians if their extorted wealth had not been employed in more perishing, as well as more criminal, luxury. The pomp of religious solemnities, which were twice as numerous and costly in Athens as in any other city of Greece; the extravagance of entertainments and banquets, which on such occasions always followed the sacrifices; the increase of private luxury, which naturally accompanied this public profusion—exhausted the resources, without augmenting the glory, of the republic. Instead of the bread, herbs, and simple fare recommended by the laws of Solon, the Athenians, soon after the eightieth Olympiad, availed themselves of their extensive commerce to import the delicacies of distant countries, which were prepared with all the refinements of cookery. The wines of Cyprus were cooled with snow in summer; in winter, the most delightful flowers adorned the tables and persons of the wealthy Athenians. Nor was it sufficient to be crowned with roses, unless they were likewise anointed with the most precious perfumes. Parasites, dancers, and buffoons, were a usual appendage of every entertainment. Among the weaker sex, the passion for delicate birds, distinguished by their voice or plumage, was carried to such excess as merited the name of madness. The bodies of such youths as were not peculiarly addicted to hunting and horses, which began to be a prevailing taste, were corrupted by a lewd style of living; while their minds were still more polluted by the licentious philosophy of the sophists. It is unnecessary to crowd the picture, since it may be observed, in one word, that the vices and extravagances which are supposed to characterise the declining ages of Greece and Rome, took root in Athens during the administration of Pericles, the most splendid and most prosperous in the Grecian annals."

During this period flourished Æschylus and Sophocles, Euripides and Aristophanes, dramatists; Pindar, a lyrical poet; Herodotus and Thucydides, historians; Xenophanes, Heraclitus, Empedocles, Anaxagoras, and Socrates, philosophers (reasoners upon the nature of the human mind, and upon man's immortal destiny). In this period, also, under the administration of Pericles (from 458 to 429 B. C.), sculpture and architecture attained their perfection. It was then that Phidias executed those splendid works, statues of the gods and goddesses, which excited the admiration of the world, and which succeeding artists have in vain endeavoured to rival. While Athens had extended its power over a great part of the coasts of the Ægean Sea, and increased its trade and commerce by every available means, it had also become a city of palaces and temples, whose ruins continue to be the admiration of ages for their grandeur and beauty. It is understood that the Greeks had acquired their knowledge of architecture from the Egyptians, but they greatly excelled them in the elegance of their designs, and are in a great measure entitled to the character of inventors in the art. The beauty of the Corinthian pillar, for example, has never been excelled either in ancient or modern times. [See ARCHITECTURE.]

After the surrender of Athens to the Spartans (404 B. C.), the democratical constitution was abolished, and the government was entrusted to thirty persons, whose tyrannous, oppressive, and bloody administration, ere long procured them the title of the Thirty Tyrants. The ascendancy of these intruders was not, however, of long duration. Conon, assisted privately by the Persians, who were desirous of humiliating the Spartans, expelled the enemy, and re-established the independence of his country. Seventy years later, a new source of agitation throughout Greece was caused by the warlike projects of Alexander, king of Macedon, usually styled

Alexander the Great.

This intrepid and ambitious soldier was the son of Philip, king of Macedon, a small territory adjacent to the Grecian states, from which it had originally received a knowledge of arts and learning. Alexander was born in the year 356 B. C., and by his father was committed to the charge of the philosopher Aristotle to be educated, a duty which was faithfully fulfilled. By the assassination of Philip, Alexander was called to the throne of Macedon while yet only twenty years of age, and immediately had an opportunity of displaying his great warlike abilities in conducting an expedition into Greece, which was attended with signal success, and procured for him the honour of succeeding his father as commander-in-chief of the Grecian states. He now carried out a design which had been formed by Philip, to subdue Persia and other countries in Asia. In the spring of 334 B. C., he crossed over to the Asiatic coast, with an army of 30,000 foot and 5000 horse, thus commencing the most important military enterprise which is narrated in the pages of ancient history. Alexander marched through Asia Minor, and in successive encounters completely conquered the armies of Persia; but the whole history of his progress is but an account of splendid victories. During a space of about seven or eight years, he conquered Persia, Assyria, Egypt, Babylonia, and, in fact, became master of nearly all the half civilised countries in Asia and Africa. It does not appear that Alexander had any motive for this wide-spread overthrow of ancient and remote sovereignties, excepting that of simple ambition, or desire of conquest, with, perhaps, the indefinite idea of improving the social condition of the countries which he overran. From various circumstances in his career, it is apparent that he never contemplated the acquisition of wealth or of praise, except such as could be shared with his soldiers, for whom he displayed a most paternal affection. His character in this respect shines forth in a remarkable speech which he delivered to his army after these great conquests, and when some mutinous murmurs had broken forth in his camp. Mounting the tribunal, he spoke as follows:—"It is not my wish, Macedonians, to change your resolution. Return home, without hindrance from me. But, before leaving the camp, first learn to know your king and yourselves. My father Philip (for with him it is ever fit to begin) found you, at his arrival in Macedon, miserable and hopeless fugitives; covered with skins of sheep; feeding among the mountains some wretched herds which you had neither strength nor courage to defend against the Thracians, Illyrians, and Triballi. Having repelled the ravagers of your country, he brought you from the mountains to the plain, and taught you to confide, not in your fastnesses, but in your valour. By his wisdom and discipline, he trained you to arts and civility, enriched you with mines of gold, instructed you in navigation and commerce, and rendered you a terror to those nations at whose names you used to tremble. Need I mention his conquests in Upper Thrace, or those, still more valuable, in the maritime provinces of that country? Having opened the gates of Greece, he chastised the Phocians, reduced the Thessalians, and, while I shared the command, defeated and humbled the Athenians and Thebans, eternal foes to Macedon, to whom you had been successively tributaries, subjects, and slaves. But my father rendered you their masters; and having entered the Peloponnesus, and regulated at discretion the affairs of that peninsula, he was appointed, by universal consent,

general of combined Greece; an appointment not more honourable to himself than glorious for his country. At my accession to the throne, I found a debt of five hundred talents, and scarcely sixty in the treasury. I contracted a fresh debt of eight hundred; and conducting you from Macedon, whose boundaries seemed unworthy to confine you, safely crossed the Hellespont, though the Persians then commanded the sea. By one victory, we gained Ionia, Æolia, both Phrygias, and Lydia. By our courage and activity, the provinces of Cilicia and Syria, the strength of Palestine, the antiquity of Egypt, and the renown of Persia, were added to your empire. Yours, now, are Bactria and Aria, the productions of India, the fertility of Assyria, the wealth of Susa, and the wonders of Babylon. You are generals, princes, satraps. What have I reserved for myself but this purple and diadem, which mark my pre-eminence in toil and danger? Where are my private treasures? Or why should I collect them? Are *my* pleasures expensive? You know that I fare worse than any of yourselves; and have in nothing spared my person. Let him, who dares, compare with me. Let him bare his breast, and I will bare mine. My body, the fore part of my body, is covered with honourable wounds from every sort of weapon. I often watch, that you may repose safely; and to testify my unremitting attention to your happiness, had determined to send home the aged and infirm among you, loaded with wealth and honour. But since you are all desirous to leave me, go! Report to your countrymen, that, unmindful of the signal bounty of your king, you entrusted him to the vanquished barbarians. The report, doubtless, will bespeak your gratitude and piety."

This impassioned and touching oration deeply affected the discontented soldiers, and all gladly returned to their allegiance. Shortly after this, the extraordinary career of Alexander was suddenly cut short by death. At Babylon, while engaged in extensive plans for the future, he became sick, and died in a few days, 323 B.C. Such was the end of this conqueror, in his thirty-second year, after a reign of twelve years and eight months. He left behind him an immense empire, which, possessing no consolidated power, and only loosely united by conquest, became the scene of continual wars. The generals of the Macedonian army respectively seized upon different portions of the empire, each trusting in his sword for an independent establishment. The greedy struggle for power finally terminated in confirming Ptolemy in the possession of Egypt; Seleucus in Upper Asia; Cassander in Macedon and Greece; while several of the provinces in Lower Asia fell to the share of Lysimachus.

CONCLUDING PERIOD OF GREEK HISTORY.

At the death of Alexander, the Athenians considered it a fit opportunity to emancipate themselves from the ascendancy of Macedon, but without success. Demosthenes, one of the most eminent patriots and orators of Athens, on this occasion, to avoid being assassinated by order of Antipater, the Macedonian viceroy, killed himself by swallowing poison; and his compatriot Phocion was shortly afterwards put to death by his own countrymen, the Athenians, in a mad outbreak of popular fury. Greece cannot be said to have produced one great man after Phocion; and this deficiency of wise and able leaders was doubtless one chief cause of the insignificance into which the various states, great and small, sank after this epoch.

The ancient history of Greece, as an independent country, now draws to a close. Achaia, hitherto a small unimportant state, having begun to make some pretensions to political consequence, excited the enmity of Sparta, and was compelled to seek the protection of Philip, the ruling prince of Macedon. Philip took the field against the Spartans, and their allies the Ætolians, and was in a fair way of subjecting all Greece by arms and influence, when he ventured on the fatal step of commencing hostilities against the Romans. This measure consummated the ruin of Greece, as well as that of Macedon. The Romans warred with till the end of his life (175 B.C.), and continu contest with his son Perseus, whom they utte feated, and with whom ended the line of the k Macedon. In a few years, the once illustrious a republics of Greece were converted into a Rom vince under the name of Achaia (146 B.C.)

Thus terminates the fourth and last period of history, during which there flourished several e writers and philosophers, among whom may b bered Theocritus, a pastoral poet; Xenophon, P Diodorus Siculus, Dionysius Halicarnassus, Pl and Herodian, historians; Demosthenes, an and Plato, Aristotle, Zeno, and Epicurus, philos also Zeuxis, Timanthes, Pamphilus, Nicias, and Eupompus, painters; and Praxiteles, Pol Camachus, Naucides, and Lysippus, sculptors.

In the condition of a humble dependency of and therefore following the fate of that empire, remained for upwards of four succeeding cer but although of little political importance, it tained its pre-eminence in learning. Enslaved land was, it continued to be the great school of tl As Greece had formerly sent its knowledge a over the east by the arms of one of her own kir now diffused them over the western world un protection of Rome. Athens, which was the em of Grecian learning and elegance, became the r all who were ambitious of excelling either in kn or the arts; statesmen went thither to improv selves in eloquence; philosophers to learn the of the sages of Greece; and artists to study m excellence in building, statuary, or painting; na Greece were also found in all parts of the worl ing an honourable subsistence by the superio ledge of their country. That country, in the me was less disturbed by intestine feuds than forme was not exempt from the usual fate of conquest subject to the continual extortions of governo lieutenants, who made the conquered provin means of repairing fortunes which had been br flattering the caprices of the populace at home.

The period of the independence of Greece, which all those great deeds were performed whi attracted the attention of the world, may be r from the era of the first Persian war to the c of Macedon, the last independent Greek state, Romans. This period, as we have seen, embrac more than three hundred years. It is not, th from the duration of the independent politica of the Grecian states that their celebrity arises. the patriotism of their soldiers, and the devoted l of Thermopylæ and Marathon, have been e elsewhere, without attracting much regard; must therefore conclude that it is chiefly from tl riority of its poets, philosophers, historians, and that the importance of the country, in the eyes of men, arises. The political squabbles of the At are forgotten; but the moral and intellectual res of their philosophers, and the elegant remains artists, possess an undying fame.

We now turn to the history of the Romans, b the Grecian states were finally overpowered.

HISTORY OF ROME.

MONARCHY AND REPUBLIC.

About the time when Lycurgus was settling stitutions of Sparta, Italy was possessed by a tribes, some of which, from the traces of their la and arts which have been preserved, appear t been of eastern origin, being probably colonic Greece and Asia Minor. The Etrurians, who o modern Tuscany, were the most refined of thes In the country of the Latins, more to the south middle of the eighth century before Christ, settlement was formed on a hill near the Tiber, the conduct, it is said, of a youthful leader nam

. A line drawn by the plough, after the fashion
Etrurians, became the boundary of the town,
at first was composed of only a few huts, occu-
y shepherds, freebooters, and other rude people.
Romulus, the name of Roma was conferred on
w city. He became the king of the little state,
s such established certain laws and regulations
general advantage. The lands, which extended
l miles around the city, were divided into three
ns, one for the support of government, another
e maintenance of religion, and a third for the
themselves, each person having about two acres.
nstituted a senate of a hundred (afterwards two
ed) members, who were named *patres* (fathers),
hose descendants, under the name of patricians,
equestrian order, formed the nobility of Rome.
nate prepared all measures; but these were ulti-
deliberated on by the *plebs*, or bulk of the people,
rough the medium of representatives, as in modern
, but by a general assembly held in the open air.
s, to increase the numbers of the people, all kinds
lefactors, who could get no settled footing else-
, were invited to the new city: it was then found
he male sex preponderated, and the deficiency
pplied by a stratagem, of a nature which marks
y rude state of society. The Sabines, a neigh-
ng people, were invited to witness the games at
; and while these were proceeding, the young
id hands each on one of the young Sabine women,
they carried off, and compelled to become their
The Sabines were enraged at this act; but the
a themselves, when reconciled to their new situa-
interposed to prevent bloodshed, and ultimately
ansaction had the effect of uniting the Sabines
he Romans, and thus increasing the powers of
fant state. Such is the history usually given of
igin of Rome. A late German writer has shown
for regarding it as in a great measure fabulous.
nsiders Romulus as a being little better than
ary, and the laws and regulations bearing his
as having sprung up in the course of time, and
them after the period when Romulus is repre-
l as having lived.

Roman people, from the earliest period of their
y, bore a marked resemblance in religion, man-
and general pursuits, to the Greeks, from whom
bvious that they drew their origin. They believed
same imaginary deities, such as Jupiter, Nep-
Pluto, Mars, Venus, &c., besides a great number
, in the course of time, they added to this mon-
system of mythology. Like the Greeks, also,

Roman citizen.

they dressed themselves in a simple manner, with a loose mantle, or toga, over a kind of kilt, which left the legs exposed. At the outset, their dependence was almost entirely on agriculture; but for the cultivation of the peaceful arts generally, they seem to have possessed no taste. War and plunder were their favourite pursuits, in which they far exceeded the Greeks, and almost all other nations of ancient or modern times. Their language, founded on the Greek, was that since known as the Latin, a term derived from Latium, the early of the country in which Rome was situated.

ring the early period of its history, the Roman
nment was monarchical, but restricted by a senate
opular assembly, and therefore favourable to social
ncement. From Romulus is reckoned a series of
kings, the ablest of whom, Servius Tullius, placed
e at the head of the small states forming what has
called the Latin confederacy, and considerably
oved the municipal institutions of the kingdom.
last of the seven kings of Rome was Tarquinius,
named the Proud. His son Sextus having committed an atrocious act of violence on Lucretia, the wife of Collatinus, she, unable to survive the dishonour, killed herself. By this transaction, the disgust of the people with their royal family, and with monarchy in general, was brought to a head; and under a noble Roman named Brutus, they rose and expelled Tarquinius, with all his family. Thus ended the regal power in Rome, in the year before Christ 509.

THE REPUBLIC.

The monarchy was succeeded by a republic, in which the chief legislative authority rested with the senate, and the liberties of the people were very little improved. The executive was committed to two magistrates of equal authority, named *consuls*, who were chosen annually. Brutus, who had distinguished himself in expelling the royal family, was chosen one of the two first consuls. During the time he held office, his two sons joined in a conspiracy to restore Tarquin, and Brutus, with a disregard of his own affections, which was considered a great virtue in Greece and Rome when the public interest was concerned, condemned them both to be beheaded in his presence.

The early years of the republic were marked by great struggles between the patrician, or noble order, and the common people. The vigour and perseverance with which the latter sought to emancipate themselves from the authority of the former, compose a striking picture in ancient history, and convey the impression that there were here elements of character superior to what existed at the time in any other nation besides the Greeks. It would be wearisome, however, to detail the various contentions. From the beginning, the plebeians showed a tendency to acquire the mastery. By "the Valerian law," they acquired the right of giving a final judgment on any person condemned by a magistrate. Their importance in composing armies also helped to give them influence. By seizing an opportunity when the patricians were in difficulties from foreign aggression (493 B.C.), they obtained the right of appointing *tribunes* (at first five in number, afterwards ten), who had the power of suspending the decrees of the senate and the sentences of the consul, and had a general charge over the interests of the common people. The power enjoyed by the plebeians at this time is marked by their causing the celebrated Coriolanus to be sent into banishment, his splendid military services being insufficient to atone for his openly espousing the cause of the patricians, and expressing contempt for the people. By the "law of Volero," which gave the people the right of assembling in comitia, and there discussing public affairs, without the decree of the senate—a measure equivalent to parliament assembling without the king's writ—the government of Rome became essentially democratic. (471 B.C.)

As yet the Romans had had no written law. The kings, and after them the consuls, had administered justice each according to his own sense. In the year 451 B.C., at the suggestion of a tribune named Tertullian, ten men (*decemviri*) were appointed to frame and digest a code of laws for the explanation and security of the rights of all orders of the state. The result was the formation of what have been called the *Twelve Tables of the Roman law*, to learn which by heart was a part of liberal education in ancient Rome.

On the appointment of the decemviri, the consuls were discontinued. Each of the ten men acted as supreme magistrate for a day, the nine others officiating as judges. They did not, however, remain long in authority. One of the number, named Appius Claudius, having formed a base design against a maiden named Virginia, daughter of Virginius, a centurion, and affianced to Icilius, caused her to be claimed as his slave, and, as decemvir, gave judgment in his own favour. When Virginius saw his daughter about to be sacrificed to a profligate monster, he seized a knife from a butcher's stall in the Forum, and stabbed her to the heart. The people rose in fury against Appius, who escaped for the time, but at length only avoided punish-

ment by committing suicide. This event caused the abolition of the decemvirate, after it had lasted only three years. The consuls and tribunes were then restored.

The violent struggles of the patricians and plebeians did not prevent Rome from gradually acquiring an ascendancy among the Italian states. The armies of Rome, unlike all others in those early times, were standing armies: the soldiers had regular pay, and made arms a profession. Their compact and well-organised force, meeting in general only ill-disciplined militia, carried every thing before it.* Veii, a state which had long defied and rivalled them, fell before their general Camillus (396 B.C.) In 385 B.C., they finally reduced the Gauls, a powerful branch of the Celtic race inhabiting the north of Italy. They then fought and subdued the Samnites. Other states fell beneath their powerful arms, and in the year 274 B.C., they had acquired the complete mastery of all Italy.

Wars with Carthage.

A splendid victory which they had gained near the close of the Italian wars over Pyrrhus, king of Epirus, who had come to aid the Samnites, led the Romans to believe that they might extend their conquests to countries beyond Italy. Sicily, originally a Greek colony, was at this time important for the great quantities of grain produced in it. The Carthaginians, an enterprising commercial people, occupying a tract of country in the north of Africa, were anxious to obtain possession of this island; but the Romans were inclined to dispute the prize. They fitted out a fleet, the first they ever had, and sent a large force to aid the Sicilians, who were friendly to them, in expelling the Carthaginians. Agrigentum, a great city in Sicily, was taken, after a long siege, by the joint forces of Rome and Syracuse; and the Roman fleet gained a complete victory over that of Carthage (260 B.C.) These successes were followed by the reduction of Corsica and Sardinia. The Roman fleet then sailed against Carthage itself: the Carthaginians were at first about to submit, but, inspirited by a timely aid from Greece, they made a strong effort to repel the Roman army, in which they were successful, at the same time taking Regulus, the Roman commander, a prisoner. Some time afterwards, when repeated defeats in Sicily made them desirous of peace, they allowed Regulus to go to Rome to help in negotiating it, under a solemn promise to return if the treaty should fail. It was rejected, at the urgent desire of Regulus himself, as discreditable to Rome, and he then deliberately returned to surrender his life to the enraged Carthaginians. After some further successes on the part of the Romans, the Carthaginians submitted to a humiliating peace (241 B.C.), surrendering Sicily, and agreeing to pay a large sum of money. Sicily, excepting the kingdom of Syracuse, now became a province of Rome, being the first out of Italy which

* A Roman army, in its perfect state, included infantry and cavalry. The heavy-armed infantry, which was its principal strength, was divided into ten cohorts and fifty-five companies, under the orders of a corresponding number of tribunes and centurions. The first cohort, which always claimed the post of honour and the custody of the eagle, was formed of 1105 soldiers, the most approved for valour and fidelity. The remaining nine cohorts consisted each of 555; and the whole body of the legion amounted to 6100 men. Their arms were uniform, and admirably adapted to the nature of their service: an open helmet, with a lofty crest; a breast-plate, or coat of mail; greaves on their legs; and an ample buckler on their left arm. Besides a lighter spear, the legionary soldier grasped in his right hand a formidable javelin, which he threw at his foe at the distance of ten or twelve paces. As soon as it was darted, he drew his sword, and rushed forwards to close with the enemy. His sword was a short well-tempered blade, that carried a double edge, and was alike suited to the purpose of striking or pushing. It was by this short sword, which was little more than double the length of our modern table-knives, that the Romans conquered the world. The legion was usually drawn up eight deep, and the regular distance of three feet was left between the files, as well as ranks. The legions entrenched themselves in a camp in regular form every night while out on duty, and the remains of these square earthen ramparts are still observable in Britain, and most other countries they visited.

acquired.

Twenty-three years of peace recruited the power Carthage, and enabled her to renew hostilities w Rome. Under the celebrated Hannibal, a large ar proceeded through Spain and Gaul, crossed the Al and descended on the plains of Italy. The Romans four battles in succession, the last being that of Cann in which 40,000 of their soldiers, and nearly the wh of their knights (or soldiers of the patrician order), said to have fallen. If Hannibal had instantly marc to Rome, it is believed that he would have gained p session of it, and probably given a new turn to t world's history. He deliberated, and the Romans h time to concentrate all their remaining strength agai him. Under their general, Fabius, they pursued policy which has since become proverbial, avoidi battle, and exhausting the enemy's strength by del The war ended (202 B.C.) by their gaining Syracu reducing Spain, and taking from Carthage her prisone her fleet, and a vast sum of money.

A third war with Carthage, springing expressly fr the ambition of the Roman people, began in the y 149 B.C., and ended, three years after, in the compl destruction of that city and people. Carthage was thoroughly destroyed, that its very site is now matt of uncertainty. In consequence of this success, a lar part of northern Africa became tributary to Rome.

Some years before, the Romans had carried th arms into Greece and Asia Minor. Macedonia, wh kings had not long before conquered Persia, India, a Egypt, became tributary to Rome, and Lesser As became one of her provinces. The same year in whi the Romans destroyed Carthage, saw Greece subject to them. Thus, in less than a century, they had co quered the greater number of the countries lying arou their own comparatively small state.

Insurrection of the Gracchi.

These triumphs were not an unmixed good. T people were intoxicated with success. Vast wea arising from spoil, but accumulated chiefly in the ha of the nobility, led to great luxury, and furnished means of corrupting the people. The overgrown est and power of the senators produced great discont at the same time that it made the citizens venal. this time (130 B.C.) arose Tiberius and Caius Gracc two noble youths, whose zeal to reform the gro corruptions of the state precipitated them at length measures destructive of all government and social ord Tiberius, the elder brother, urged the people to ass by force, the revival of an ancient law, limiting p perty in land, and thus abridging the estates of patricians. A tumult was the consequence, in whi Tiberius and 300 of his friends were killed in Forum. Caius Gracchus then took up the cause of people, and, notwithstanding every opposition, w enabled to abridge the power of the senate, to prot the people from monopolists in corn, and extend rights of Roman citizenship. Employing, like h brother, the dangerous engine of tumultuary force, fell a victim to it himself, with 3000 of his partis who were slaughtered in the streets of Rome. Th tumults attending the sedition of the Gracchi were th prelude to those civil disorders which now followed quick succession to the end of the commonwealth.

It may here be remarked, that Roman liberty, which we hear so much, rather refers to the resistan which was offered to monarchical and aristocratic re in the early days of Rome, than to the actual conditi of the people as individuals at any period. With mu liberty as to public and national matters, there was great deal of domestic restraint. Slaves, the prisone taken in battle, or the descendants of such, formed ea half of the population of Rome. This portion of th inhabitants had no political rights whatever: their civ rights were so much curtailed, that they could contra no legitimate marriage, were not admitted to give evi dence in law, and could not bequeath their property

ht be flogged, and even put to death, at the of their masters. It was not mere labourers e in this condition, but clerks, overseers, and cquainted with literature. Even among those y free, and who had the right of citizenship, rere not themselves rich were obliged to attach es to some nobleman, or *patrician*, as their r, and were called *his clients*. Without the influence of such a person to enforce his Roman citizen would have been excommuni- d defenceless. The tie between a patron and ts in Rome was as close, and as little flattering nferior party, as that between a chieftain and men in more recent times. The rich men kept er citizens in pay, and almost in subsistence, sake of their votes in the public assemblies; is class lost their habits of industry, and, being to live in miserable dependence on the largesses ealthy and ambitious, became idle and dissi- ous respectable even than the slaves. There eneral caressing of the populace by all who d to be candidates; shows, entertainments, dis- s of corn, were continually proposed or offered r other, to keep them in good humour; and a ar system of bribery was practised when the s came to be decided. Hence Cicero calls the *plebs urbana*) "the scum and dirt of the town," ndoned mob," "lean miserable leeches;" and arose from a humble and inconsiderable class le having votes to sell, which it became the inte- the rich to buy. The slaves, and freed men, who by far the most numerous part of the working had of course no votes; and being maintained erished only in proportion to their industry and , were many of them a confidential and esteemed mong wealthy people in Rome; while the citizens ad hereditary political rights were fed and de-

Sylla—Pompey—Cæsar.

he proportion in which Rome became a military its commanders acquired a dangerous influence affairs. Sylla and Marius, two of these com- rs, were rivals in the desire of power. The r, while commanding in a war against Mithridates, f Pontus, was superseded and recalled from Asia. fused to obey the mandate, and, finding his army ed to support him, he led it to Rome, expelled n and all his partisans, and for a time reigned plant. The desolate condition of the exiled n, sitting amongst the ruins of Carthage, is often d to. After Sylla had returned to pursue the ith Mithridates, his rival, recovering strength, more acquired an ascendancy in Rome, but was ely cut off in a fit of debauch. Sylla, now victo- in Asia, returned to Italy, and, being joined by s, Cethegus, and the young Pompey, gave battle party of his enemies, and entirely defeated them. ntry into Rome was signalised by a dreadful ere, and a proscription, which had for its object termination of every enemy whom he had in Elected *dictator*, with the unlimited authority ed to that office (one of occasional creation), he with a degree of conscientiousness that could ly have been expected from one who had shed ch blood. He restored the senate to its judicial city, regulated the election to all the important of the state, and enacted many excellent laws t oppression and the abuse of power. He then arily resigned his dictatorship, and, retiring to ndition of a private citizen, offered publicly to n account of his conduct. Not long after, he died effects of debauchery. Sylla may be reckoned uitable example of that union of great vices with points of character, which marks a time of semi- tion. Before the close of Sylla's career, Julius , a young man of high birth and great talents, was into notice. The chief power in the state was l between Pompey and Crassus; when Cæsar, by r-stroke of policy, caused himself to be associated with them in what was called a Triumvirate, or govern- ment of three persons. He now subdued Transalpine Gaul (including the present Belgium and France), and, passing over to Britain (54 B.C.), also reduced the people of that country, which the Romans considered as one of the remotest corners of the earth. By the death of Crassus, Cæsar and Pompey were left sole rivals for power. The high military reputation of Cæsar gave him great popular influence, but Pompey was befriended by the consuls and a majority of the senate. A decree was passed, forbidding Cæsar to pass, with his army, the brook Rubicon, which divided Gaul from Italy: he nevertheless did cross the stream and advance to Rome, of which he immediately gained the mastery, Pompey retiring into Greece. Cæsar, marching into Spain, overthrew Pompey's lieutenants there, and at his return found he had been declared dictator. Then, learning that Pompey had raised a large army in Illyria, he marched thither, and, at the decisive battle of Pharsalia, extinguished the hopes of his rival (49 B.C.) Pompey, who had divided the empire of the civilised world, fled as a dispirited and powerless fugitive to seek the assistance and hospitality of Ptolemy and Cleopatra, in Egypt, but was barbarously murdered the instant he stepped on shore. From the death of Pompey is to be dated the total overthrow of the Roman republic. The corruptions of the state had become too great to admit of any other cure than that of an absolute govern- ment. From this period, therefore, the senate and democratic bodies were dispossessed of all power, and Rome was never without a master.

THE EMPIRE.

Condition of the nation.

At the period when the commonwealth passed into the hands of an absolute monarch, the Romans had attained the height of their power. Directing their main energies to military conquest, they had enjoyed some centuries of glory, with every kind of plunder which the conquered countries could produce. Every district in Europe, Asia, and Africa, lying within reach of the Roman legions, had become tributary to Rome. At this period, the nation reckoned about 7,000,000 of citizens, with twice as many provincials, besides as many slaves. From being an obscure town, Rome had become a wide-spread city, and was adorned with majestic temples, public edifices and pa- laces. Other towns in Italy also rose into importance, and became the residence of distinguished Roman citizens. The public monuments of this remarkable people were placed, not only in the capital, but all over the provinces; and some of them are till this day reckoned among the greatest wonders of art. But the stupendous character of their undertakings was chiefly seen in their roads. All the cities of the empire were connected with each other, and with the capital, by public highways, which, issuing in various directions from the Forum—or great central place of public as- sembly—of Rome, traversed Italy, pervaded the pro- vinces, and were terminated only by the frontiers of the empire. On the north-west, the boundary of this extensive empire was the wall of Antoninus, built be- twixt the Firths of Clyde and Forth, in Scotland, and on the south-east it was the ancient city of Jerusalem. If the distance between these two points be carefully traced, it will be found that the great chain of commu- nication was drawn out to the length of 4080 Roman miles, or 3740 English measure. "The public roads (says Gibbon) were accurately divided by mile-stones, and ran in a direct line from one city to another, with very little respect for the obstacles either of nature or private property. Mountains were perforated, and bold arches thrown over the broadest and most rapid streams. The middle part of the road was raised into a terrace, which commanded the adjacent country, con- sisted of several strata of sand, gravel, and cement, and was paved with large stones, or, in some places near the capital, with granite. Such was the solid construction of the Roman highways, whose firmness has not entirely

yielded to the effort of fifteen centuries. They united the subjects of the most distant provinces by an easy and familiar intercourse; but their primary object had been to facilitate the marches of the legions: nor was any country considered as completely subdued, till it had been rendered, in all its parts, pervious to the arms of the conqueror. The advantage of receiving the earliest intelligence, and of conveying their orders with celerity, induced the emperors to establish, throughout their extensive dominions, the regular institution of posts. Houses were every where erected at the distance of only five or six miles; each of them was constantly provided with forty horses, and, by the help of these relays, it was easy to travel 100 miles in a day along the Roman roads." By these means the Romans maintained their ascendancy in every country, and diffused through the whole empire the improvements of social life. There was thus a nobleness and grandeur in various circumstances connected with the Roman sway, which by a moderate, firm, and enlightened system of government, might have ultimately proved of the greatest importance in the social advancement of mankind. It was most unfortunate, however, both for this sacred cause and for the welfare of the Roman people themselves, that the plan of enriching the commonwealth at the seat of power, consisted almost exclusively in robbing foreign territories—a plan which it is impossible ever can permanently exist in any country, whatever be its power. Besides, with all the encouragement given to the fine arts, such as architecture, sculpture, and the production of luxuries, there was no substantial industry or commerce, and no means were taken to enlighten and refine the community, by science, literature, or morals. The whole fabric of Roman greatness, in fact, rested on no sure foundation, and its gradual decline and fall, from the extinction of the republic, cannot excite the smallest degree of surprise.

The Twelve Cæsars.

The successes of Cæsar placed him at the head of the Roman world. His only remaining opponent was Cato, who has been described as one of the most faultless characters in Roman history. This eminent patriot was, however, unable, by force of arms, to restore the liberties of the people, or to arrest Cæsar in his victorious and ambitious career. Being at last deserted by his friends, and dreading to fall into the hands of his enemy, after pondering a while on the nature of the immortality of the soul, he stabbed himself with his own sword—an act which Roman morality held as perfectly justifiable, and which was committed by many of the first characters of the state, when they happened to be deserted by fortune. After the death of Cato, Cæsar was without a rival. Returning to Rome in triumph, he established his power as dictator, and shortly afterwards received the title of *imperator*, or emperor, with full powers of sovereignty. The assumption of these dignities, as may be supposed, served to unite the friends of the republican form of government, or at least all who had thriven on the diseases of the state, with the view of making away with the usurper. A deep-laid conspiracy was accordingly formed against Cæsar, composed of sixty senators, at the head of whom was Decimus Brutus, whose life Cæsar had spared after the battle of Pharsalia, and Cassius, who was pardoned soon after. Cæsar was privately made acquainted with the existence of plots against his life; but, being of a fearless disposition, he proceeded, on the day intended for the fatal blow, to the senate-house. Here, by a preconcerted signal, he was stabbed behind in the shoulder by Casca. All the conspirators now rushed forward, and he received a second stab in the breast, while Cassius wounded him in the face. In this emergency, he defended himself with great vigour, rushing among them, and throwing down such as opposed him, till he saw Brutus among the conspirators, who, coming up, struck his dagger into his thigh. From that moment, Cæsar thought no more of defending himself, but, looking upon the ungrateful assailant, cried out, "And you too, B Then, covering his head, and spreading his rob him, in order to fall with a greater decency, down at the base of Pompey's statue, after r twenty-three wounds from hands which he vai posed he had disarmed by his benefits. Thus d remarkable man, the best who ever aspired reignty in Rome, the victor in five hundred and the conqueror of a thousand cities, in t sixth year of his age (44 B.C.)

Upon the death of Cæsar, the conspirato unable to form a government, or to inspire co in their designs; and in the distractions which Mark Antony, an ambitious man and formerl tenant of Cæsar, endeavoured to raise himsel supreme command. In this effort he was not ful. Octavius, grand-nephew and adopted son o also came forward as a candidate for power; likewise did a third personage, named Lepidus, one of these ambitious men possessed sufficie to attain supreme command, they entered into tion, forming a tripartite power, termed a triu Being opposed by Brutus, a dreadful civil war the atrocities of which are scarcely paralleled in Brutus was ultimately killed, after which e triumvirate quarrelled among themselves, and C by force of arms, becoming conqueror, attai dignity of emperor of Rome.

Julius Cæsar's successors.

On arriving at this proud eminence, Octavi called Augustus Cæsar,* relinquished the a designs of his predecessors; he endeavoured solidate the empire, instead of extending it t bounds, and introduced a spirit of moderat the public councils hitherto unknown. Know taste of the Romans, he indulged them in t of seeing the appearance of a republic, while h them really happy in the effects of a most absol narchy, guided by the most consummate p Historians delight in recounting the number deeds of Augustus, and the glories of his ti from him the phrase of "the Augustan age," by writers to periods in the history of nations able for the prosperity and refinement which p has been derived. It was in the twenty-fifth the reign of this magnanimous prince that Jesu was born, in the Roman province of Judea. In t 14 of our era, Augustus was succeeded by T a person of an entirely different character, an whom the corruptions of the state became very g the nineteenth year of his cruel reign, Christ cified, under Pontius Pilate, the Roman gove Jerusalem. In the year 37, Tiberius was put t by smothering him with pillows, or, as some hi allege, by poison; and he was succeeded by Ca person of vicious habits and still more cruel ch This emperor was prodigal and extravagant to almost inconceivable. The luxuries of former e were simplicity itself when compared to those w practised. He contrived new ways of bathing the richest oils and most precious perfumes we with the utmost profusion. He found out d immense value, and had even jewels, we a dissolved among his sauces. He sometimes h vices of pure gold presented before his guests of meat. But his prodigality was the most able in regard to his horse. He built for it a marble, and a manger of ivory. Whenever t mal, which he called Incitatus, was to run, h sentinels near its stable the night preceding, vent its slumbers from being broken. He a it a house, furniture, and a kitchen, in order all its visitors with proper respect. He so

* A number of the imperial successors of Julius Cæsar the title of *Cæsar*, in addition to their other designation same manner as we find the appellations of Pharaoh and were assumed by many of the Egyptian sovereigns. Th Cæsar has been curiously enough preserved until modern the title of *Czar*, which is given by the Russians to their n

it to his own table, and presented it with gilt
d wine in a golden cup. He often swore by
ty of his horse; and historians mention, that
d have appointed it to a consulship, had not
h prevented. Caligula perished by assassina-
ter a reign of less than four years; of him
een said, that nature seemed to have brought
th, to show what was possible to be produced
e greatest vice supported by the greatest
y. He was succeeded by Claudius, who was a
nd contemptible emperor, and who was finally
by poison. Nero, the next emperor, was at
ted for his cruelty, his vanity, and his debased
s. The atrocities he committed go beyond the
f language to describe, and are such as perhaps
ntered into the mind of any other human being.
iracy having been raised against him, and being
h hunted by assassins, he fell by a stroke of his
gger. Of the succeeding emperors, we need not
ter into a detail. Under Vespasian, the tenth,
s, the eleventh emperor, the state rallied a little,
stice and an appearance of decency were once
sumed.

reign of Trajan, the fourteenth emperor, almost
l the glories of Augustus (A. D. 107.) He ad-
l the empire to a greater degree of splendour than
hitherto attained. He pursued his military con-
into new regions, even to Hindostan, and added
r to the extent of the Roman territories; although
s not ultimately attended with any good effect.
s is distinguished as the greatest and the best
or of Rome. Having given peace and prospe-
the empire, he continued his reign, loved, ho-
d, and almost adored, by his subjects. A pillar
merating his great actions, erected in Rome, is
existence. His successor, Adrian, was also a
overeign, and was distinguished for his abilities
terary acquirements. After this period, the em-
e never again under the authority of any ruler
itable for his magnanimity. The greater part
successors of Adrian were dissolute and vicious
ir habits, and under them the empire waned to
w. The only one deserving to be noticed was
ntine, the forty-first emperor (A. D. 311.)

Introduction of Christianity.

the death of Constantius, the fortieth emperor,
queathed the sovereignty to his son Constantine,
g prince of promising abilities. In the attempt,
ver, to take possession of his inheritance, he was
ed by three contending rivals—Maxentius, who
ed in Rome, a person of cruel disposition, and a
ast supporter of paganism; Licinius, who com-
ed in the east; and Maximin, who also governed
of the eastern provinces. The first step taken
nstantine was an expedition with an army to
, to expel Maxentius. One evening, while the
was on its march, Constantine, who was of a
ative disposition, sat in his camp reflecting upon
certain fate of sublunary things, and the dangers
enterprise in which he was engaged. It was then,
ding to a fabulous legend of the Christian church,
s the sun was declining, there suddenly appeared
n of light in the heavens, in the form of a cross,
the inscription in the Greek language, "In this
ne!" So extraordinary an appearance did not
create astonishment and religious awe in the mind
nstantine, and he resolved forthwith to adopt the
ue persuasion of the hitherto persecuted Chris-
. On the day following, he caused a royal standard
made like that which he had seen in the heavens,
mmanded it to be carried before him in his wars,
ensign of victory and celestial protection. After
he consulted with several of the principal teachers
istianity, and made a public avowal of that sacred
ligion. Constantine having thus attached his sol-
rs to his interest, who were mostly of the Christian
, lost no time in entering Italy with 90,000 foot,
000 horse. With this large force, he fought with
and overcame Maxentius, and entered Rome in triumph. One of his first acts was to ordain that no criminal should for the future suffer death by crucifixion, which had formerly been the most usual way of punishing slaves convicted of capital offences. Edicts were soon after issued, declaring that the Christians should be eased from all their grievances, and received into places of trust and authority. Thus, the new religion was seen at once to prevail over the Roman empire, and, being associated with the state, the bishops and other clergy were endowed with an authority which had formerly been wielded by the priests of the ancient paganism.

Shortly after the establishment of Christianity (A. D. 321), Constantine executed a resolution of transferring the seat of government from Rome to Byzantium, or Constantinople, as it was afterwards called in honour of his name. As Greece and various provinces in Asia now formed a part of the Roman empire, it was believed that Constantinople would form a more central situation for the capital. Whatever truth there might be in this, the transfer, instead of proving in any respect advantageous, weakened the fabric of the state, and exposed it to a more speedy dissolution. Constantine died when above sixty years old, leaving a mixed character "of piety and credulity, of courage and cruelty, of justice and ambition," and was succeeded by his three sons, Constantine, Constantius, and Constans. These divided the empire among them, but it was subsequently united by Constantius, after a war of twelve years' duration. This union was of no long continuance. Theodosius, in the year 395, permanently divided the empire into the Eastern and Western Roman Empires, the capital of the former being Constantinople, and of the latter Rome. The history of these two divisions of the Roman territory now also separates; and following the usual practice of historians, we leave the Eastern or Byzantine empire to form the subject of a separate narrative, while we conclude with a few words upon the latter days of the old Roman or Western empire.

Destruction of the Roman empire.

For a considerable period, the Roman dominions were pressed upon on nearly all sides by ferocious tribes of barbarians. These were at first unknown to the Romans; but about the era of Constantine they had become formidable, and arose in such numbers, that the earth seemed to produce a new race of mankind, to complete the empire's destruction. Against such an enemy no courage could avail, nor abilities be successful; a victory only cut off numbers without a habitation and a name, soon to be succeeded by others equally desperate and obscure. The emperors who had to contend with this people, were most of them furnished neither with courage nor conduct. Constantius, Julian, Jovian, and Valentinian, successively endeavoured to arrest the tide of barbarism which set in; but they wanted both the personal energy and the stern soldiery of the early commonwealth to accomplish this desirable object. In the vain attempt to stop an immense inundation of Huns, Allanes, and Goths, from the extensive deserts of Tartary and Russia, the Roman armies were greatly weakened; so that the emperors, finding it difficult at last to raise levies in the provinces, were obliged to hire one body of barbarians to oppose another. This expedient had its use in circumstances of immediate danger; but when that was over, the Romans found it was as difficult to rid themselves of their new allies as of their former enemies. Thus, the empire was not ruined by any particular invasion, but sank gradually under the weight of several attacks made upon it on every side. When the barbarians had wasted one province, those who succeeded the first spoilers proceeded on to another. Their devastations were at first limited to Thrace, Mysia, and Pannonia; but when these countries were ruined, they destroyed Macedonia, Thessaly, and Greece, and thence they proceeded to Noricum. The empire was in this manner continually shrinking, and Italy at last became the frontier of its own dominion.

The valour and conduct of Theodosius in some measure retarded the progress of destruction; but, upon his death, the enemy became irresistible. A large body of Goths had been called in to assist the regular forces, under Alaric, their king; but what was brought in to stop the universal decline, proved the last mortal stab to the empire. This Gothic prince, from an ally became a dangerous foe; and finally marching to Rome, made himself master of the city, which he abandoned to be pillaged by his soldiers (A. D. 410.)

After this disastrous event, Rome was plundered several times, and Italy was overrun by barbarous invaders, under various denominations, from the remotest skirts of Europe. The inhabitants of Rome, who had sunk into the grossest vices by the overpowering influence of wealth and prosperity, were quite unable to make any defence. So debased had they become, or so ill regulated was the balance of wealth, that for many years the whole of the lower classes had been fed daily by the emperors from the public granaries. The power of the state was now entirely broken; the provinces were voluntarily abandoned, or they rebelled, or were seized by the nearest barbarous powers. At length the title of emperor of the west, which, on one occasion, was put up to public auction by the licentious soldiery, expired; and, to finish the melancholy account, one of the princes of the barbarians assumed the title of *king of all Italy*. "Such" (to quote the words of Goldsmith) "was the end of this great empire, that had conquered mankind with its arms, and instructed the world with its wisdom; that had risen by temperance, and that fell by luxury; that had been established by a spirit of patriotism, and that sank into ruin when the empire was become so extensive, that a Roman citizen was but an empty name." Its final dissolution took place in the 480th year of the Christian era, or 1232 years from the date of the foundation of Rome.

ROMAN LITERATURE.

Literature could scarcely be said to exist among the Romans till their conquests in Greece made them acquainted with the admirable productions of that country, and the custom arose of sending youths to be educated in Athens. In the second century before the Christian era, comic dramatic writing was cultivated by *Ennius* and *Plautus*, and after them by *Terentius*, a slave, whose first comedy, the Andria, was acted in the year 165 B.C. Of Roman tragic writing, no remains have come down to our times. The *elder Cato*, who flourished in the same century, is praised as a writer by those who came after him; but we have scarcely any remains of his compositions. Philosophical writing may be said to have arisen and at once reached its acme in *Cicero*, the celebrated orator (born 106, died 46 B. C.), beyond all question the greatest man in the department of letters to whom the Roman state gave birth. Besides many strictly philosophical treatises, he has left several works on rhetoric, and many orations and epistles.

A philosophical manner of relating events took its rise with *Sallustius* (born 68 B. C.), whose histories of the Jugurthan war and of the conspiracy of Catiline, though perhaps not free from prejudice, are considered as models of composition. The Commentaries of Cæsar, in which, with noble simplicity, he relates the history of his own campaigns, place him amongst the first Roman writers. *Livius*, who lived in the reign of Augustus, stands unrivalled amongst the Roman historical writers, being distinguished by consummate judgment in the selection of facts, perspicuity of arrangement, sagacious reflection, sound views of policy, and the most copious, pure, and eloquent expression. Of his history of Rome, written in 142 books, only 35 have reached us. Next to him, in the same department, is *Tacitus* (born A. D. 55), whose Annals of Rome, extending throughout the greater part of the first century, and his life of Agricola, the conqueror of Britain, are remarkable for acuteness of thought and concise style.

Lucretius, a dramatic, and *Catullus*, a lyric poet, were the principal writers of that kind who rose before the reign of Augustus. This reign was not onl by Livius, but by a cluster of poets, of unma cellence. *Virgilius*, a native of Mantua, wrote or pastoral dialogues, Georgics, or poetical tr agricultural subjects, and the Æneid, a hero poom. His style is remarkable for smoothn fine strain of feeling. *Horatius*, his contemp friend, composed odes, satires, and epistles never been excelled in felicity of phrase and matic point; the general strain of his writin and familiar. *Ovidius* was a most elegant, tho tious poet. *Tibullus*, *Propertius*, and *Martial*, the list of the principal Roman poetical writ *canus*, *Statius*, and *Silius Italicus*, flourished time, when luxuriance of ornament and a te conceit showed that the best days of the nati lect were past.

Plinius (born A. D. 23) was almost the on writer who treated of nature or science; he wa ciate of Tacitus, and has left behind him work celebrated. He was a diligent student of the of nature, both animate and inanimate, and h voted every spare moment to the noting dow and observations, he finally produced a volumi on Natural History, in thirty-seven books, reckoned the more valuable for its containing from many lost works. Pliny was unfortuna in the year 79, by an eruption from Vesuvi destroyed the city of Herculaneum, where l the time residing.

The Romans distinguished themselves in p only by spreading the doctrines of the Gree phers in a language more extensively underst principal writer on morals was *Seneca*, born i year of the Christian era. Gifted by nature w lent talents, he devoted himself to the cultivat Stoic philosophy, and his various learning and wisdom procured him the office of tutor to N afterwards incurred the enmity of that m cruelty, and was condemned by him to death. with the calmness of a virtuous mind (A. D. 6

It is perhaps unnecessary to mention, tha the works of the writers whose names have bec nor of others of less importance, were circula rally among the Roman people. Being writte of parchment or papyrus, copies were multi by great labour and expense, and sold or exclusively to persons of taste and opulenc the great mass of Roman citizens and p were left in entire ignorance of books, or of jects of which they treated. In the Roma Pompeii, lately uncovered from the effects of a eruption of Vesuvius, many interesting rema have been discovered, but no traces of literat soever. Being excluded from the pleasures a tages of mental culture through the agency the only recreations of the people consisted in l games, witnessing fights of gladiators or s with each other, or with wild beasts, or attenc tacles probably less barbarous, but not more to cultivate the national intellect, or produce finement. In these facts, we find the true ca decline of both Greek and Roman civilisation a civilisation only of castes and classes. T nothing expansive or vivifying in it. Suddenly up in the Grecian republics, and was transp Rome; but there, after a short struggle, it w out and destroyed. The modern civilisation t out of the chaos that followed the demise of th power, is an entirely different thing, because more pervades all classes of society, and by the expansive principle of education, aided b of printing, promises to extend and increase throughout every succeeding generation, ti mately fulfil the highest conditions of impro which the human race is susceptible.

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l dismembering his empire, having before his
ided it among no fewer than five individuals,
his three sons, Constantine, Constans, and
ius, and two nephews named Dalmatius and Annibalianus, both of whom bore in addition the surname of Cæsar, still popular among a people who wished themselves to be considered Roman.

Constantine II. soon fell a sacrifice to the cruelty and ambition of his brother Constans, who, in his turn, lost his life in attempting to quell a revolt among his subjects; and Constantius, the youngest of the sons, having found means to destroy the two Cæsars, and five other cousins, and two uncles, found himself, at an early period of life, the undisputed master of the empire. He reigned twenty-four years, but left no monuments of goodness or of greatness, having wasted his time in the practice of vice, or in the equally unprofitable, if more innocent, employment of disputing with bishops on the abstrusest points of doctrinal theology, while a host of enemies, apparently from every side of his dominions, were engaged in undermining and laying waste the empire. It was in the west that these attacks were first made, though, perhaps, it was in the east that they were fiercest. Numberless and powerful barbarians now began to pour unceasingly upon Gaul, Spain, and latterly upon Italy itself, from the forests of the north, and in particular from those of Germany —a country whose inhabitants have been remarkable in the history of the world, both as having originated many of the greatest movements in society, and as having laid open more of the sources of human thought than any other people that could be named. The Franks, Saxons, Goths, and Alemanni, devastated the fine countries watered by the Rhine, and so effectually parted them from the empire, that from this period their history becomes wholly separate. At the same time the Sarmatians, Persians, Scythians, and others, made dreadful incursions on the east. All that Constantius did to stem this powerful tide, was to raise his kinsman Julian, whom he surnamed Cæsar, to command in the army.

Julian had been early instructed in the Christian religion, but he is not known to have ever given it any credit, although he has been often called apostate. He had imbibed the philosophy of Plato in the schools of Athens; and with this learning, with the elements of a great character in his mind, and with the models of Cæsar, of Trajan, and of Marcus Antoninus in his eye, he formed the design, and seemed to have the ability, to raise up and consolidate the glories of the falling empire. His victories over the Alemanni in Gaul, although they preserved the empire, excited only the envy of the emperor, and Constantius was about to depose him from his command, when his own death saved him from the ignominy to which the soldiery would certainly have subjected him for any attempt to degrade their favourite commander. Julian was himself declared emperor by the army, and the people had lost both the power and the will to resist. Unfortunately for his fame, Julian perished in battle with the Persians, only three years after his accession. In that

ment by committing suicide. This event caused the abolition of the decemvirate, after it had lasted only three years. The consuls and tribunes were then restored.

The violent struggles of the patricians and plebeians did not prevent Rome from gradually acquiring an ascendancy among the Italian states. The armies of Rome, unlike all others in those early times, were standing armies: the soldiers had regular pay, and made arms a profession. Their compact and well-organised force, meeting in general only ill-disciplined militia, carried every thing before it.* Veii, a state which had long defied and rivalled them, fell before their general Camillus (396 B.C.) In 385 B.C., they finally reduced the Gauls, a powerful branch of the Celtic race inhabiting the north of Italy. They then fought and subdued the Samnites. Other states fell beneath their powerful arms, and in the year 274 B.C., they had acquired the complete mastery of all Italy.

Wars with Carthage.

A splendid victory which they had gained near the close of the Italian wars over Pyrrhus, king of Epirus, who had come to aid the Samnites, led the Romans to believe that they might extend their conquests to countries beyond Italy. Sicily, originally a Greek colony, was at this time important for the great quantities of grain produced in it. The Carthaginians, an enterprising commercial people, occupying a tract of country in the north of Africa, were anxious to obtain possession of this island; but the Romans were inclined to dispute the prize. They fitted out a fleet, the first they ever had, and sent a large force to aid the Sicilians, who were friendly to them, in expelling the Carthaginians. Agrigentum, a great city in Sicily, was taken, after a long siege, by the joint forces of Rome and Syracuse; and the Roman fleet gained a complete victory over that of Carthage (260 B.C.) These successes were followed by the reduction of Corsica and Sardinia. The Roman fleet then sailed against Carthage itself: the Carthaginians were at first about to submit, but, inspirited by a timely aid from Greece, they made a strong effort to repel the Roman army, in which they were successful, at the same time taking Regulus, the Roman commander, a prisoner. Some time afterwards, when repeated defeats in Sicily made them desirous of peace, they allowed Regulus to go to Rome to help in negotiating it, under a solemn promise to return if the treaty should fail. It was rejected, at the urgent desire of Regulus himself, as discreditable to Rome, and he then deliberately returned to surrender his life to the enraged Carthaginians. After some further successes on the part of the Romans, the Carthaginians submitted to a humiliating peace (241 B.C.), surrendering Sicily, and agreeing to pay a large sum of money. Sicily, excepting the kingdom of Syracuse, now became a province of Rome, being the first out of Its acquired.

Twenty-three years of peace recruited Carthage, and enabled her to renew ho Rome. Under the celebrated Hannibal, proceeded through Spain and Gaul, cros and descended on the plains of Italy. The four battles in succession, the last being th in which 40,000 of their soldiers, and near of their knights (or soldiers of the patricia said to have fallen. If Hannibal had insta to Rome, it is believed that he would hav session of it, and probably given a new world's history. He deliberated, and the time to concentrate all their remaining str him. Under their general, Fabius, the policy which has since become proverb battle, and exhausting the enemy's stren The war ended (202 B.C.) by their gaini reducing Spain, and taking from Carthage h her fleet, and a vast sum of money.

A third war with Carthage, springing ex the ambition of the Roman people, began 149 B.C., and ended, three years after, in destruction of that city and people. Car thoroughly destroyed, that its very site is of uncertainty. In consequence of this suc part of northern Africa became tributary

Some years before, the Romans had arms into Greece and Asia Minor. Mace kings had not long before conquered Persi Egypt, became tributary to Rome, and became one of her provinces. The same y the Romans destroyed Carthage, saw Gree to them. Thus, in less than a century, t quered the greater number of the countries their own comparatively small state.

Insurrection of the Gracchi.

These triumphs were not an unmixed people were intoxicated with success. arising from spoil, but accumulated chiefly of the nobility, led to great luxury, and f means of corrupting the people. The overg and power of the senators produced great at the same time that it made the citizens this time (130 B.C.) arose Tiberius and Cai two noble youths, whose zeal to reform corruptions of the state precipitated them a measures destructive of all government and Tiberius, the elder brother, urged the peop by force, the revival of an ancient law, l perty in land, and thus abridging the ex patricians. A tumult was the consequen Tiberius and 300 of his friends were k Forum. Caius Gracchus then took up the people, and, notwithstanding every opp enabled to abridge the power of the senate the people from monopolists in corn, and rights of Roman citizenship. Employin brother, the dangerous engine of tumultua fell a victim to it himself, with 3000 of hi who were slaughtered in the streets of I tumults attending the sedition of the Grac prelude to those civil disorders which now quick succession to the end of the common

It may here be remarked, that Roman which we hear so much, rather refers to th which was offered to monarchical and aristo in the early days of Rome, than to the actu of the people as individuals at any period. liberty as to public and national matters, t great deal of domestic restraint. Slaves, th taken in battle, or the descendants of such, half of the population of Rome. This po inhabitants had no political rights whatever rights were so much curtailed, that they cou no legitimate marriage, were not admitted dence in law, and could not bequeath thei

* A Roman army, in its perfect state, included infantry and cavalry. The heavy-armed infantry, which was its principal strength, was divided into ten cohorts and fifty-five companies, under the orders of a corresponding number of tribunes and centurions. The first cohort, which always claimed the post of honour and the custody of the eagle, was formed of 1105 soldiers, the most approved for valour and fidelity. The remaining nine cohorts consisted each of 555; and the whole body of the legion amounted to 6100 men. Their arms were uniform, and admirably adapted to the nature of their service: an open helmet, with a lofty crest; a breast plate, or coat of mail; greaves on their legs; and an ample buckler on their left arm. Besides a lighter spear, the legionary soldier grasped in his right hand a formidable javelin, which he threw at his foe at the distance of ten or twelve paces. As soon as it was darted, he drew his sword, and rushed forwards to close with the enemy. His sword was a short well-tempered blade, that carried a double edge, and was alike suited to the purpose of striking or pushing. It was by this short sword, which was little more than double the length of our modern table-

* the Romans conquered the world. The legion was up eight deep, and the regular distance of three tween the files, as well as ranks. The legions selves in a camp in regular form every night ,, and the remains of these square earthen ram- rvalde in Britain, and most other countries they

: of officers, and even the succession to the
where it was not seized by some successful
was in the hands of the women and eunuchs
ace. The cities and provinces generally ac-
as to the choice of an emperor, in the decision
pital or army; this circumstance shows that
were attended to, and that there was a regular
government, which was not much disturbed
rsonal character of the reigning prince. The
of Greece, however, which had formerly been
of knowledge and the arts, were now sunk in
:; and the little learning that was cultivated
s was only scholastic divinity, or the pedantry
id grammar. There is no scholar or philo-
the empire of Constantinople who is generally
posterity.

at change took place in the relations of the
fter the eleventh century. It was still pressed
urks on the east, who now occupied Asia Minor,
e only separated from Constantinople by the
nt; while, in Europe, its territories were dis-
y the incursions of certain Norman adventurers
settled in Sicily. Against these enemies the
r Claudius Comnenus, an active prince, and
sources, made all the resistance which his di-
l revenues allowed. He applied to the Chris-
ereigns of Europe to aid him in expelling the
tans from the territories of the empire, but,
l, to drive out the Turks from the land of Judea,
hey occupied and profaned, and where they
the Christian pilgrims who desired to visit the
f Scripture history. His appeal was received
e at a time when many concurring causes had
the mass of the people to a state of uneasiness
once foreboded and rendered necessary some
e change in their condition. Countrymen of
n, pilgrims from the shrine of the tomb of
nd returned and filled them with horror by a
f indignities which Turkish infidels were cast-
ose scenes and subjects with which their own
ered feelings were associated; and the result
extraordinary outpouring of the inhabitants
e upon Asia, which has been termed the Cru-
d to which we shall afterwards advert.

MA.—MAHOMET.—EMPIRE OF THE SARACENS.

not before the sixth century that Arabia be-
eculiarly remarkable in the history of the world.
l Arabs, as they have been generally called, had
ignalised themselves by incursions on the em-
e east, when Mahomet was born, in the year 569
y, 571) of the Christian era, at Mecca, the prin-
y of their country. He is said to have been de-
from some great families; but it is certain that
ediate progenitors were poor, and he had little
n but what his own means and his own mind
re him. Yet this man became the founder of
empire, and the fabricator of a religion which
inued to our own day to affect greater numbers
nd than Christianity itself. At an early period
e are told, "he retired to the desert, and pre-
o hold conferences with the Angel Gabriel, who
d to him, from time to time, portions of a sacred
Koran, containing revelations of the will of the
e Being, and of the doctrines which he required
het (that is, Mahomet himself) to communicate
orld." The Mahometan religion, as the so-
evelations of this great impostor have since been
ed, was a strange mixture of the superstitions of
the morality of Christ, and the rites of Judaism.
o this happy mixture of tenets, usages, and tra-
already existing among his countrymen, and to
liability of the precepts of the Koran to all
nnections and all the business of life, that Ma-
ems to have owed his extraordinary success.
indeed, have attributed this to certain indul-
allowed in the Koran; but in reality these in-
es existed before, and the book breathes upon
le an austere spirit. This extraordinary work
inculcated elevated notions of the divine nature and of moral duties; it taught that God's will and power were constantly exerted towards the happiness of his creatures, and that the duty of man was to love his neighbours, assist the poor, protect the injured, to be humane to inferior animals, and to pray seven times a-day. It taught that, to revive the impression of those laws which God had engraven originally in the hearts of men, He had sent his prophets upon earth—Abraham, Moses, Jesus Christ, and Mahomet—the last, the greatest, to whom all the world should owe its conversion to the true religion. By producing the Koran in detached parcels, Mahomet had it in his power to solve all objections by new revelations. It was only after he was well advanced in years that his doctrines began to be received. At first, indeed, they were so violently opposed by his fellow-citizens of Mecca, that the prophet was obliged to fly from the city to save his life. This event is called by his followers *Hegyra*, or the Flight: it occurred in the 622d year of the Christian era; and they reckon dates from it as we do from the birth of Christ. Mahomet took refuge in the city of Medina, and by the aid of his disciples there, he was soon enabled to return to Mecca at the head of an armed force. This enabled him to subdue those who would not be convinced, and henceforward he proceeded to make proselytes and subjects together, till at length, being master of all Arabia and of Syria, his numerous followers saluted him king. (627.) This extraordinary man died suddenly and in the midst of successes, at the age of sixty-one (632). Abubeker, his father-in-law and successor, united and published the books of the Koran, and continued and extended the empire, spiritual and temporal, which Mahomet had left him.

A more powerful caliph (such was the title given to this series of monarchs) was Omar, the successor of Abubeker (635). Barbarity, ferocity, and superstition seem to have been mingled and to have reached their height in the person of Omar. It was by his order that the most magnificent library of antiquity, that of Alexandria, consisting of 700,000 volumes, was burned to ashes. The reason which he gave for this act is worth preserving: "If these writings," he said, "agree with the Koran, they are useless, and need not be preserved; if they disagree, they are pernicious, and ought to be destroyed." By himself and his generals, this ferocious conqueror added Syria, Phœnicia, Mesopotamia, Chaldea, Egypt, Lybia, and Numidia, to his empire. Next came Otman, and then Ali, the son-in-law of Mahomet himself. The name of Ali is still revered by Mussulmans. His reign was short but glorious. "After some internal troubles, the Saracens won their way along the coast of Africa, as far as the pillars of Hercules, and a third province was irretrievably torn from the Greek empire. These western conquests introduced them to fresh enemies, and ushered in more splendid successes. Encouraged by the disunion of the Visigoths [in Spain], and invited by treachery, Muza, the general of a master who sat beyond the opposite extremity of the Mediterranean Sea, passed over into Spain, and within about two years the name of Mahomet was invoked under the Pyreneans."—(*Hallam*. 710.)

Nineteen caliphs of the race of Omar succeeded Ali, and after these came the dynasty of the Abassydæ, descended by the male line from Mahomet. The second caliph of this race, named Almanzor, removed the seat of empire to Bagdat (762), and introduced learning and the culture of the sciences, which his successors continued to promote with zeal and liberality. This was some recompense for those indignities which had been cast upon literature by the brutal Omar. Perhaps the obligations of modern Europe to Arabia at this time have been overstated; but it is not to be denied that learning, almost totally excluded and extinct in Europe during the eighth and ninth centuries, found an asylum here. It has been matter of dispute how the tastes of these fierce Arabians became thus first directed. They probably owed it to the Greeks; but it is certain that what they got they returned with interest. We are

yielded to the effort of fifteen centuries. They united the subjects of the most distant provinces by an easy and familiar intercourse; but their primary object had been to facilitate the marches of the legions: nor was any country considered as completely subdued, till it had been rendered, in all its parts, pervious to the arms of the conqueror. The advantage of receiving the earliest intelligence, and of conveying their orders with celerity, induced the emperors to establish, throughout their extensive dominions, the regular institution of posts. Houses were every where erected at the distance of only five or six miles; each of them was constantly provided with forty horses, and, by the help of these relays, it was easy to travel 100 miles in a day along the Roman roads." By these means the Romans maintained their ascendancy in every country, and diffused through the whole empire the improvements of social life. There was thus a nobleness and grandeur in various circumstances connected with the Roman sway, which by a moderate, firm, and enlightened system of government, might have ultimately proved of the greatest importance in the social advancement of mankind. It was most unfortunate, however, both for this sacred cause and for the welfare of the Roman people themselves, that the plan of enriching the commonwealth at the seat of power, consisted almost exclusively in robbing foreign territories—a plan which it is impossible ever can permanently exist in any country, whatever be its power. Besides, with all the encouragement given to the fine arts, such as architecture, sculpture, and the production of luxuries, there was no substantial industry or commerce, and no means were taken to enlighten and refine the community, by science, literature, or morals. The whole fabric of Roman greatness, in fact, rested on no sure foundation, and its gradual decline and fall, from the extinction of the republic, cannot excite the smallest degree of surprise.

The Twelve Cæsars.

The successes of Cæsar placed him at the head of the Roman world. His only remaining opponent was Cato, who has been described as one of the most faultless characters in Roman history. This eminent patriot was, however, unable, by force of arms, to restore the liberties of the people, or to arrest Cæsar in his victorious and ambitious career. Being at last deserted by his friends, and dreading to fall into the hands of his enemy, after pondering a while on the nature of the immortality of the soul, he stabbed himself with his own sword—an act which Roman morality held as perfectly justifiable, and which was committed by many of the first characters of the state, when they happened to be deserted by fortune. After the death of Cato, Cæsar was without a rival. Returning to Rome in triumph, he established his power as dictator, and shortly afterwards received the title of *imperator*, or emperor, with full powers of sovereignty. The assumption of these dignities, as may be supposed, served to unite the friends of the republican form of government, or at least all who had thriven on the diseases of the state, with the view of making away with the usurper. A deep-laid conspiracy was accordingly formed against Cæsar, composed of sixty senators, at the head of whom was Decimus Brutus, whose life Cæsar had spared after the battle of Pharsalia, and Cassius, who was pardoned soon after. Cæsar was privately made acquainted with the existence of plots against his life; but, being of a fearless disposition, he proceeded, on the day intended for the fatal blow, to the senate-house. Here, by a preconcerted signal, he was stabbed behind in the shoulder by Casca. All the conspirators now rushed forward, and he received a second stab in the breast, while Cassius wounded him in the face. In this emergency, he defended himself with great vigour, rushing among them, and throwing down such as opposed him, till he saw Brutus among the *conspirators*, who, coming up, struck his dagger into *his thigh. From that moment*, Cæsar thought no more *of defending himself*, but, looking upon the ungrateful assailant, cried out, "And you too, my son!" Then, covering his head, and spreading his robe before him, in order to fall with a greater decency, he sunk down at the base of Pompey's statue, and received twenty-three wounds from hands which, he supposed he had disarmed by his benefits. Thus died a remarkable man, the best who ever aspired to sovereignty in Rome, the victor in five hundred battles, and the conqueror of a thousand cities, in the sixth year of his age (44 B.C.)

Upon the death of Cæsar, the conspirators were unable to form a government, or to insp[ire] in their designs; and in the distractions that ensued Mark Antony, an ambitious man and fo[rmer] lieutenant of Cæsar, endeavoured to raise himself to supreme command. In this effort he was successful. Octavius, grand-nephew and adopted son of Cæsar, also came forward as a candidate for power, likewise did a third personage, named Lepidus. One of these ambitious men possessed the talents to attain supreme command, they entered into a combination, forming a tripartite power, termed a triumvirate. Being opposed by Brutus, a dreadful civil war ensued, the atrocities of which are scarcely paralleled in history. Brutus was ultimately killed, after which the three triumvirate quarrelled among themselves, and each, by force of arms, becoming conqueror, assumed the dignity of emperor of Rome.

Julius Cæsar's successors.

On arriving at this proud eminence, Octavius, called Augustus Cæsar,* relinquished the ambitious designs of his predecessors; he endeavoured to consolidate the empire, instead of extending its bounds, and introduced a spirit of moderation in the public councils hitherto unknown. Suiting the taste of the Romans, he indulged them in the pleasure of seeing the appearance of a republic, while he made them really happy in the effects of a monarchy, guided by the most consummate prudence. Historians delight in recounting the noble deeds of Augustus, and the glories of his reign, from him the phrase of "the Augustan age" is used by writers to periods in the history of nations remarkable for the prosperity and refinement which has been derived. It was in the twenty-second year of the reign of this magnanimous prince that Jesus Christ was born, in the Roman province of Judea, in the year 14 of our era, Augustus was succeeded by Tiberius, a person of an entirely different character, under whom the corruptions of the state became so great that the nineteenth year of his cruel reign, Christ was crucified, under Pontius Pilate, the Roman governor of Jerusalem. In the year 37, Tiberius was murdered by smothering him with pillows, or, as some writers allege, by poison; and he was succeeded by Caligula, a person of vicious habits and still more cruel disposition. This emperor was prodigal and extravagant to a degree almost inconceivable. The luxuries of former emperors were simplicity itself when compared to those which he practised. He contrived new ways of bathing with the richest oils and most precious perfumes, and that with the utmost profusion. He found pearls of immense value, and had even jewels, of the most dissolved among his sauces. He sometimes served up dishes of pure gold presented before his guests as delicacies of meat. But his prodigality was the most remarkable in regard to his horse. He built for him a stable of marble, and a manger of ivory. When the favourite animal, which he called Incitatus, was to sleep, sentinels near its stable the night previous were to prevent its slumbers from being broken. He presented it a house, furniture, and a kitchen, in which all its visitors with proper respect.

* A number of the imperial successors of Julius Cæsar assumed the title of *Cæsar*, in addition to their other designations, in the same manner as we find the appellations of Pharaoh and Ptolemy were assumed by many of the Egyptian sovereigns. The name of Cæsar has been curiously enough preserved until the present day in the title of Czar, which is given by the Russians to their emperor.

d in time into utter insignificance, while the wer was wielded by an important officer, called or of the Palace. Among the most remarkable was Pepin Heristal, Duke of Austrasia, who rance for thirty years with great wisdom and licy. His son, Charles Martel, who succeeded ower, distinguished himself by that great vic- er the Saracens (732), which checked their n Europe.

peal by Pepin le Bref, the son of Charles Martel, 'ope of Rome, whose authority had by this time great, ruled that he who had the power should re the title of king, and this put an end to the f the descendants of Clovis (752). Pepin remu- the pope for this service by turning his arms the Lombards in Italy, some of whose dominions erred upon the Holy See; and these, it is said, e first of the temporal possessions of the church. died (768), leaving two sons, Carloman and , who succeeded him in the empire. Carloman an early period of life, but Charles survived to for himself a fame greater than that of any ndividual during the middle ages, with, per- he single exception of Mahomet. We shall d to speak of him and of his times, after making two observations on some other European coun-

n was among the earliest countries lost to the empire. From about the year 406, this country, le or in part, had been successively invaded and d by Suevi, Alains, Vandals, and Visigoths. -named people were in possession of the greater the country before the year 585, and erected a hy which existed till 712, when they were sub- y the Saracens or Moors. The Saracens made lescent on Spain from Africa, where Muza, a of the Caliph of Bagdat, had already made ex- conquests. They easily overran Spain and van- Don Rodrigo, or Roderic, the last of the Gothic Abdallah, son of Muza, married the widow of e, and the two nations entered into union. Be- conclusion of the eighth century, Abdalrahman, the Moorish generals, had laid aside all temporal ion to the Caliph of Bagdat, and formed Spain independent kingdom. His residence was at a, and this city became renowned as one of the nlightened in Europe, under several succeeding

Those parts of Spain which were under the h kings embraced also their religion. The north was.

ards the conclusion of the sixth century, Italy the possession of the Longobeards, or Lombards, ntinued masters of the greater part of it for two ies. Of their rule, history has recorded little murders and confusion.

s during this period that the Saxon Heptarchy rmed in Britain.

CHARLEMAGNE—THE NEW WESTERN EMPIRE.

ar the greatest character who appeared in Europe period was Charles, the son of Pepin le Bref, own in history by the name of Charlemagne, or the Great. "In the course of a reign of forty- ars, Charlemagne extended the limits of his em- yond the Danube, subdued Dacia, Dalmatia, and conquered and subjected all the barbarous to the banks of the Vistula, made himself master eat portion of Italy, and successfully encountered ns of the Saracens, the Huns, the Bulgarians, he Saxons. His war with the Saxons was of years' duration; and their final conquest was not ed without an inhuman waste of blood. At the st of the pope, and to discharge the obligations father Pepin to the holy see, Charlemagne, h allied by marriage to Desiderius, King of the rds, dispossessed that prince of all his dominions, nt a final period to the Lombard dominion in (774)."—(*Tytler.*)

m Charlemagne made his first entry into Rome, he was crowned King of France and of the Lombards by Pope Adrian I.; and afterwards, on a second visit, he was consecrated Emperor of the West by the hands of Pope Leo III. (800). He probably attached some importance to these rites; but it is to be remarked that, as yet, the pontiff was not in enjoyment of that high influence by which he afterwards could confer or withdraw sovereignty at his pleasure.

"It is probable," says Mr Tytler, "that, had Charlemagne chosen Rome for his residence and seat of government, and at his death transmitted to his successor an undivided dominion, that great but fallen empire might have once more been restored to lustre and respect; but Charlemagne had no fixed capital, and he divided even in his lifetime his dominions among his children" (806). Charlemagne died in the year 814, aged 72. His last days were employed in consolidating, rather than extending, his empire, by the making of laws which have rendered his name famous, and his memory even blessed. "Though engaged in so many wars," says Dr Russell, "Charlemagne was far from neglecting the arts of peace, the happiness of his subjects, or the cultivation of his own mind. Government, manners, religion, and letters, were his constant pursuits. He frequently convened the national assemblies, for regulating the affairs both of church and state. In these assemblies he proposed such laws as he considered to be of public benefit, and allowed the same liberty to others; but of this liberty, indeed, it would have been difficult to deprive the French nobles, who had been accustomed, from the foundation of the monarchy, to share the legislation with their sovereign. His attention extended even to the most distant corners of his empire, and to all ranks of men. He manifested a particular regard for the common people, and studied their ease and advantage. The same love of mankind led him to repair and form public roads; to build bridges, where necessary; to make rivers navigable for the purposes of commerce; and to project that grand canal which would have opened a communication between the German Ocean and the Black Sea, by uniting the Danube and the Rhine." Amidst all his greatness, his personal habits were simple; his dress was of the plainest sort, and such even as to shame his own courtiers; his hours of study were set apart, and seldom omitted even in the busiest times of his life; his daughters were taught spinning and housewifery, and his sons trained by himself in all the accomplishments of the age. Charlemagne was fond of the company of learned men, and greatly encouraged their residence in his dominions. In this respect he resembled his contemporary Haroun al Raschid, so famous in Arabian history, and Alfred the Great, who appeared in England shortly after this period. Superior to all national prejudice, he elevated an Englishman named Alcuin to the head of his royal academy. He was zealous for the extension of Christianity; and one of the few blots upon his name arises from his having, in the spirit of his age, caused 4000 Saxon prisoners to be beheaded in one day, because they would not submit to be baptised. Charlemagne established schools in the cathedrals and principal abbeys, for teaching writing, arithmetic, grammar, and music.

Of the sons of Charlemagne, Louis, the youngest, surnamed the *Debonnaire*, or gentle, was the only one who survived. He succeeded to all his father's dominions, except Italy, which fell into the hands of Bernard, a grandson of Charlemagne. Louis, deficient in vigour of character, was not able to hold together the great empire left to him by his father. Having, among the first acts of his reign, given large portions of it to his children, the remainder of his life was spent in disgraceful quarrels with them; and, after his death (840), the empire was formally divided—Lothaire, his eldest son, obtaining Lorraine and Provence; while Charles the Bald, a younger son, continued sovereign of the western parts of France; and Louis became King of Germany. Thus abruptly ends the history of the second western empire.

FRANCE FROM THE TIME OF CHARLES THE BALD TO THE ELEVENTH CENTURY.

During the reign of Charles the Bald, France first suffered from the attacks of the Normans, a race of bold and needy adventurers from the north of Europe. Their plundering invasions were continued for upwards of seventy years; till at length (912) the French king was compelled to purchase their amity, by yielding to Rollo, their leader, the country afterwards from them called Normandy, of which Rouen was the capital. The first successor of Charles the Bald, with whose name history has associated any thing worth remembering, was Charles, surnamed the Fat (885). He was the son of that Louis to whom Germany had been before assigned, and was thus enabled to bring that country and France for a short time once more under a single ruler. In the turbulence of the times, Charles was soon deposed, and during the century which followed, France, so lately the centre of an empire little less than that of Rome in the days of its Cæsars, was split up into a multitude of independencies, by nobles who would own only a very slender subjection to the kings. Out of these nobles at last sprang Hugh Capet (987), who was enabled, on the death of Louis V., to place himself on the throne. He was already possessed of great property, and proved himself to be also a prince of much ability and penetration. He established the royal residence at Paris, which his predecessors had deserted, and became the founder of a family which still, in one of its branches, occupies the throne of France. He deserves to be mentioned with honour, as being among the first of European kings who trusted to prudence, counsel, and moderation, rather than force of arms, in effecting his purposes. His success was great, as it deserved to be. On his death (996), in the fifty-seventh year of his age and the tenth of his reign, he was succeeded by his son Robert, who had all his father's equitable disposition without his vigour of character. He was subjected to a degree of tyranny, on the part of the church, of which perhaps the history of the world does not afford such another example. Robert had been guilty of marrying a cousin in the fourth degree, without a *dispensation* from the holy see, that is, without paying a fine for what was only an imaginary offence. Gregory V., who then occupied the pontifical chair, threatened to excommunicate Robert if he should not dismiss his wife, and, on Robert's refusal, actually did so, and laid all his dominions under an interdict. This punishment proved tremendous in its effects; for, though the king himself showed sense and courage enough to despise the wrath of the pontiff, yet his subjects deserted him in terror. The priests, in consequence of the interdict, refused sacrament to the sick all over the country, and the dead were every where left unburied, when mass was no longer said. In these circumstances, the unfortunate king submitted. A second marriage, contracted with the consent of the church, proved very unhappy. The new queen, Constantia, or Constance, made many efforts to embroil her husband and his family, and in the midst of these Robert died (1031). His son Henry succeeded, and it was during his reign that those pilgrimages to the Holy Land, which were so soon to end in the Crusades, took their rise. Of these we shall speak by themselves. In the mean time we take leave of France by mentioning that Henry's successor was Philip (1060), whose reign is remarkable as having witnessed the beginning of those contests with England which continued at intervals till the early part of the nineteenth century.

At this period (1066), the Normans conquered England, where their leader, William Duke of Normandy, became the founder of an important dynasty.

THE GERMAN EMPIRE TILL THE ELEVENTH CENTURY.

Germany had no political existence till the time of Charlemagne, when it was formed by him into a part of the western empire. Towards the conclusion of the ninth century, it became an empire of itself. In the year 887, Arnold, a natural son of Carloma phew of Charles the Fat, was declared emp assembly of bishops and nobles. These ass Germany always retained a voice in the their emperors; and though they often n choice from the line of succession, they neve ledged any hereditary rights whatever. Afte of Arnold's son, called Louis III., their choic Conrad, Duke of Franconia (912). Conrad's was Henry I., surnamed the *Fowler*. He was great abilities, and introduced order and go ment into the empire. "He united the gra curbed their usurpations; built, embellished, fied cities; and enforced, with great rigour, tion of the laws in the repression of all enorn had been consecrated by his own bishops, and no correspondence with the see of Rome. Otho the Great, who succeeded him (938), u to the empire, and kept the popedom in con jection. He made Denmark tributary to th crown, annexed the crown of Bohemia to h minions, and seemed to aim at a paramount over all the sovereigns of Europe."

In these times the papacy was much d "Formosus, twice excommunicated by Pope J had himself arrived at the triple crown. On his rival, Pope Stephen VII., caused his body out of the grave, and after trial for his cr demned it to be flung into the Tiber. The Formosus fished up the corpse, and had inter cure the deposition of Stephen, who was st prison. A succeeding pope, Sergius III., ag the ill-fated carcass, and once more threw river. Two infamous women, Marosia and managed the popedom for many years, and chair of St Peter with their own gallants adulterous offspring."—(*Tytler*). It was amids fusion and these disturbances that Otho was turn his arms on Italy. He shortly made hims of it all, and had himself declared emperor b see, with all the pomp that had attended ceremony to Charlemagne himself (962). XII., whom Otho himself had been the mea ing to the pontifical chair, rebelled soon af returned to Rome in fury, had John depose one-half of the senate before he left the city, a a solemn acknowledgment from an assembly tant bishops, that the emperor had a right nominate to vacant bishopries, but also to pope himself. Otho died (972), and was f succession by Otho II., Otho III., St Henry, C and Henry III., the history of whose reign nothing instructive, or upon which the mind with pleasure. Henry IV. (1056) is rema having been one of the greatest victims of pap that history has made us acquainted with. brated Hildebrande, known as Gregory VI this age the means of raising the power of t to a height which it had never reached before Henry's contest with this daring and ambitio he made him twice his prisoner, and twic thunders of the Vatican excommunicate and d in consequence. As a specimen of the p insolence of this pope, we may mention th dispirited by the effect which his excommunic upon his friends and followers, having resol to Rome and ask absolution from Gregory i did so; and, presenting himself as an humbl at the palace of St Peter, was there stripped of and obliged to remain in that condition, in court, in the month of January (1077), b among snow, and fasting, for three succes before he was allowed to implore forgivene offences! On the fourth day he was permitt the toe of his holiness, and then received a Henry died in the year 1106.

ITALY FROM THE NINTH TO THE ELEVENTH CE

The state of Italy during this period has be

noticed in the preceding section. From the Lothaire, to whom it was nominally assigned as te kingdom (843), to that of Otho the Great, ne country was ravaged by contending tyrants. the invasions of the Normans and the claims ierman emperors, it became much distracted, ultimately split up into several independent Some of these, particularly Venice, Genoa, d Florence, became afterwards independent and l republics. It was during the present period foundation of the temporal power of the popes

N FROM THE TIME OF ABDALRAHMAN TILL THE ELEVENTH CENTURY.

ng the period of which we have been treating, eemed less a part of Europe than any other in it. The greater part of it still continued he dominion of the Moors, and apparently with ge. "This period," says Mr Tytler, "from the of the eighth to the middle of the tenth century, nt brilliant era of Arabian magnificence. Whilst al Raschid made Bagdat illustrious by the splen- f the arts and sciences, the Moors of Cordova th their brethren of Asia in the same honourable s, and were undoubtedly at this period the most ned of the states in Europe. Under a series of inces, they gained the highest reputation, both and arms, of all the nations of the west." And se eastern conquerors seem to have had their s as well as others. A race of powerful nobles them, as in the other countries of Europe, dis- the country and made effective government ble. The Christian part of the population, still ed of several provinces in the north, might have dvantage of such a state of things for repossess- mselves of their lost country. But civil dissen- s still greater among themselves, and Christian readily formed alliances with the Moors, if they rospect of weakening an immediate enemy by ans, forgetting that the common foe still re- to harass them. But the detail of these nume- d petty contentions need not detain us longer; s the history of Spain assume any importance rds the conclusion of the fifteenth century, when ed arms of Ferdinand and Isabella expelled the or ever from the country.

AL STATE OF EUROPE IN THE ELEVENTH CENTURY.

e the end of the tenth century, Europe had a point of darkness and degradation, beyond seemed impossible to go. Though long nomi- nverted to the Christian religion, the nations pe may be said to have scarcely exhibited, up period, a single distinctive mark of what men nd by Christian civilisation. "The barbarous " says Dr Robertson, "when converted to nity, changed the object not the spirit of their worship. They endeavoured to conciliate the f the true God, by means not unlike to those hey had employed in order to appease their ities. Instead of aspiring to sanctity and vir- ich alone can render men acceptable to the thor of order and of excellence, they imagined y satisfied every obligation of duty by a scru- bservance of external ceremonies. Religion, g to their conception of it, comprehended no- se; and the rites by which they persuaded es that they should gain the favour of Heaven, such a nature as might have been expected rude ideas of the ages which devised and in- l them. They were either so unmeaning as to ether unworthy of the Being to whose honour re consecrated, or so absurd as to be a disgrace n and humanity. Charlemagne in France, and he Great in England, endeavoured to dispel knese, and gave their subjects a short glimpse and knowledge. But the ignorance of the age powerful for their efforts and institutions. The darkness returned, and settled over Europe, more thick and heavy than before." The clergy were the only body of men among whom any knowledge or learning now remained; and this superiority they employed to continue, if not to deepen, the degradation into which society had fallen. The superstitious belief that moral crimes could be expiated by presents to the Deity, if not originated by them, at least found them its strenuous defenders, for the reason that a gift to God meant, in plainer language, a *solatium* to the church. The priests would have made men believe that avarice was the first attribute of the Deity, and that the saints made a traffic of their influence with Heaven. Hence Clovis is said to have jocularly remarked, that, "though St Martin served his friends very well, he also made them pay well for his trouble."

Persons in the highest ranks and most exalted stations, could neither read nor write. Of the clergy themselves, many of them did not understand the Breviary which it was their duty to recite; and some of them, it is said, could scarcely read it. Those among the laity who had to express their assent in writing, did so by a sign of the cross attached to the document (sometimes also by a seal); and to this day, in consequence, we speak of *signing* a document, when we subscribe our names.

The evils of the feudal system, too, had by this time become excessive and insupportable. Every petty chief was a king in his own dominions, and their vassals were their subjects, if, indeed, they should not be called slaves. These barons made laws of their own, held courts of their own, coined money in their own names, and levied war at their own pleasure against their enemies; and these enemies were not unfrequently their kings. Indeed, the kings of these times can be looked upon in no other light than as superior lords, receiving a nominal and empty homage for lands, which, in the fictitious language of feudal law, were said to be held of the crown. In these circumstances, what might we expect to be the condition of the great body of the people? They were either actual slaves, or exposed to so many miseries, arising from pillage and oppression, that many of them made a voluntary surrender of their liberty in exchange for bread and protection from the feudal lords. There *was* no people, as that term is now understood. "There was nothing morally in common," says Guizot, "between the lord and the serfs; they formed part of his domains, and were his property; under which designation were comprised all the rights that we at present call rights of public sovereignty, as well as the privileges of private property, he having the right of giving laws, of imposing taxes, and of inflicting punishment, as well as that of disposing and selling. In fact, as between the lord and the labourers on his domain, there were no recognised laws, no guarantees, no society, at least so far as may be predicated of any state in which men are brought into contact." In what way society rose above so many accumulated evils, and light sprang from so much darkness, we shall now endeavour to show. The most remarkable and the most lasting influence, beyond all question, was that exerted by

THE CRUSADES.

"It is natural to the human mind," says Dr Robertson, "to view those places which have been distinguished by being the residence of any celebrated personage, or the scene of any great transaction, with some degree of delight and veneration. To this principle must be ascribed the superstitious devotion with which Christians, from the earliest ages of the church, were accustomed to visit that country which the Almighty had selected as the inheritance of his favourite people, and in which the Son of God had accomplished the redemption of mankind. As this distant pilgrimage could not be performed without considerable expense, fatigue, and danger, it appeared the more meritorious, and came to be considered as an expiation for almost every crime. An opinion, which spread with rapidity over Europe

about the close of the tenth and beginning of the eleventh century, and which gained universal credit, wonderfully augmented the number of credulous pilgrims, and increased the ardour with which they undertook this useless voyage. The thousand years mentioned by St John [Rev. xx. 2, 3, 4] were supposed to be accomplished, and the end of the world to be at hand. A general consternation seized mankind; many relinquished their possessions, and, abandoning their friends and families, hurried with precipitation to the Holy Land, where they imagined that Christ would quickly appear to judge the world.*

While Palestine continued subject to the caliphs, they had encouraged the resort of pilgrims to Jerusalem, and considered this as a beneficial species of commerce, which brought into their dominions gold and silver, and carried nothing out of them but relics and consecrated trinkets. But, the Turks having conquered Syria about the middle of the eleventh century, pilgrims were exposed to outrages of every kind from these fierce barbarians. This change happening precisely at the juncture when the panic terror which I have mentioned rendered pilgrimages most frequent, filled Europe with alarm and indignation. Every person who returned from Palestine related the dangers which he had encountered, in visiting the holy city, and described with exaggeration the cruelty and vexations of the Turks."

Among the most notorious of those who had returned with these accounts, was a monk known by the name of Peter the Hermit. By all accounts this individual seems to have been a weak-minded and contemptible being. He is represented as running from city to city, and from kingdom to kingdom, bare-headed, with naked arms and legs, and bearing aloft a ponderous crucifix in his hand, imploring and preaching with an enthusiastic madness on the necessity of wresting the Holy Land from the hands of the infidels. In a more enlightened age, Peter the Hermit would probably have been confined as a troublesome lunatic; in this, however, he was not only allowed to go on, but encouraged and abetted in his career. The ambitious Hildebrande had expressed a strong desire to send armed forces from Europe to exterminate the Mahometans from Palestine, in order that another country might be brought under his spiritual subjection; and Urban II., who at this time occupied the chair of St Peter, warmly seconded the efforts of the enthusiastic monk. Nor was Peter's success small. Vast multitudes proclaimed themselves ready to engage in the undertaking. Two great councils of the church, one of them held at Placentia and the other at Clermont, in Auvergne, attended by prelates, princes, and immense multitudes of the common people, declared enthusiastically for the war (1095). The pope himself attended at the last, and Peter and he having both addressed the multitude, they all exclaimed, as if impelled by an immediate inspiration, "It is the will of God! it is the will of God!" These words were thought so remarkable, that they were afterwards employed as the motto on the sacred standard, and came to be looked upon as the signal of battle and of rendezvous in all the future exploits of the champions of the cross. Persons of all ranks now flew to arms with the utmost ardour. The remission of penance, the dispensation from those practices which superstition imposed or suspended at pleasure, the absolution of all sins, and the assurance of eternal felicity, were the rewards held out by the church to all who joined the enterprise; and "to the more vulgar class," says Mr Hallam, "were held out inducements which, though absorbed in the overruling fanaticism of the first Crusade, might be exceedingly efficacious when it began to flag. During the time that a crusader bore the cross, he was free from suits for his debts, and the interest of them was entirely abolished; he was exempted, in some instances at least, from taxes, and placed under the protection of the church, so that he could not be impleaded in any civil court, except in criminal charges or questions relating to land." It was in the spring of the year 1096, that Peter the Hermit set out for Judea, at the head of a promiscuous assemblage of 80,000 men, with sandals on his feet, a rope about his waist, and every other mark of monkish austerity. Soon after, a more numerous and better disciplined force of 200,000 followed, including some able and experienced leaders. Godfrey of Bouillon, Robert, Duke of Normandy (son of William the Conqueror of England), the Counts of Vermendois, Toulouse, and Blois, are a few of the more illustrious. The progress of this immense mass of human beings on their journey was marked by misery and famine. They had vainly trusted to Heaven for a supernatural supply of their wants, and in their disappointment, they plundered all that came in their way. "So many crimes and so much misery," says Mr Hallam, "have seldom been accumulated in so short a space, as in the three years of the first expedition;" and another historian says, that a "fresh supply of German and Italian vagabonds," received on the way, were even guilty of pillaging the churches. It is certain that before the hermit reached Constantinople, the number of his forces had dwindled down to 20,000. Alexis Comnenus, then Emperor of Constantinople, who had applied to the states of Europe for assistance, without much hope of obtaining it, in order that he might be enabled to resist a threatened attack by the Turks upon himself, was surprised and terrified at the motley group of adventurers who had now reached the shore of his dominions. He readily afforded them the means of transporting themselves across the Bosphorus, and performed the same friendly office to the larger force which followed under Godfrey and others; glad, apparently, to have the barbarians of the north, as his subjects called them, out of his dominions. The Sultan Solyman met the army of the hermit, if army it could be called, and cut the greater part of it to pieces on the plains of Nicea. The second host proved more successful. In spite of their want of discipline, their ignorance of the country, the scarcity of provisions, and the excess of fatigue, their zeal, their bravery, and their irresistible force, enabled them twice to overthrow old Solyman, to take his capital, Nice, and, after an obstinate resistance, the city of Antioch also. (1098). At length (1099) they reached Jerusalem, much diminished in numbers and broken in spirit; but, with persevering assiduity, they proceeded to lay siege to the city, and in six weeks they became its masters. Their cruel conduct to the inhabitants attests the barbarous feelings of their hearts. "Neither arms defended the valiant, nor submission the timorous; no age nor sex was spared; infants on the breast were pierced by the same blow with their mothers, who implored for mercy; even a multitude of ten thousand persons, who had surrendered themselves prisoners and were promised quarter, were butchered in cool blood by these ferocious conquerors. The streets of Jerusalem were covered with dead bodies. The triumphant warriors, after every enemy was subdued and slaughtered, turned themselves, with the sentiments of humiliation and contrition, towards the holy sepulchre. They threw aside their arms, still streaming with blood; they advanced with reclined bodies and naked feet and heads, to that sacred monument; they sung anthems to him who had purchased their salvation by his death and agony; and their devotion, enlivened by the presence of the place where he had suffered, so overcame their fury, that they dissolved in tears, and bore the appearance of every soft and tender sentiment. So inconsistent is human nature with itself, and so easily does the most effeminate superstition ally, both with the most heroic courage and with the fiercest barbarity."

With a becoming foresight, the Crusaders established a Christian kingdom in the heart of Palestine; and at the head of it, by universal consent, was placed God-

* Mr Hallam mentions, as corroborative of this general belief, that charters at this period usually commenced with these words: "As the world is now drawing to its close;" and that an army, marching under the Emperor Otho I., was so terrified by an eclipse of the sun, which it conceived to announce this consummation, as to disperse hastily on all sides.

frey, whose goodness and justice had signalised him, and gained him respect, in the midst of the general wickedness. The pope, however, was too eager to enjoy the triumph to which he had looked forward, and sending an ignorant and obtruding ecclesiastic to assume this command, Godfrey retired; and thus was lost, undoubtedly, the best chance that Europeans ever had of really possessing the Holy Land. The Turks had now time to recover their strength and renew their attacks: they did so: many of the Crusaders had in the mean time returned home, and those of them who remained, surrounded and menaced by such foes, at last implored aid from Christendom. There the spirit which had been raised by Peter the Hermit was far from being extinguished; and another, more eloquent and more learned than Peter, namely St Bernard, had arisen to keep alive the flame of devotion. Roused by his preachings, Europe sent forth a second Crusade (1147). It consisted of 200,000 French, Germans, and English, in two divisions, the first led on by Conrad III. of Germany, and the second by Louis VII. of France. Strangely enough, both these leaders permitted themselves to be drawn into a snare by false guides, furnished by the Greek Emperor; and both armies, one after another, were withdrawn amidst the rocks of Laodicea, and, after being nearly starved by famine, they were cut to pieces by the Sultan of Iconium. This Crusade proved the most disastrous of them all. "Thousands of ruined families," says Russell, "exclaimed against St Bernard for his deluding prophecies: he excused himself by the example of Moses, who, like him, he said, had promised to conduct the Israelites into a happy country, and yet saw the first generation perish in the desert."

It was shortly after this period that the illustrious Saladin appeared (1180). Born among an obscure Turkish tribe, this individual fixed himself by his bravery and conduct on the throne of Egypt, and began to extend his conquests in the east. The still existing, though wretchedly supported kingdom of the Christians in Palestine, proving an obstacle to the progress of his arms, Saladin directed his power against it, and, assisted by the treachery of the Count of Tripoli, he completely overcame the Christians in battle (1187). The holy city itself fell into his hands, after a feeble resistance; and, except some cities on the coast, nothing remained to the Christians of all that, a century before, it had cost Europe so much to acquire. The followers of the cross, however, were not yet wholly disheartened; and a third great Crusade was entered into before the end of the twelfth century. The three greatest sovereigns of Europe, Frederick Barbarossa of Germany, Philip Augustus of France, and Richard Cœur de Lion of England, all took part. The forces of Frederick were earliest in the field. He had passed through the unfriendly territories of the Greek empire, crossed the Hellespont, and defeated the infidels in several battles, before Richard or Philip had stirred from home. The Christians of the East were beginning to look with hope and pride on so great assistance; but they seemed fated to be unfortunate. Frederick died (1190), from having thrown his body, heated by exertion, into the cold river of Cydnus; and his army, like the others that had gone before it, dwindled into nothing. The united armies of Richard and Philip followed. In their progress, the feelings of envy and national hatred rose above the object which had brought them together. Philip returned, disgusted or dismayed, shortly after they reached their destination; and Richard was thus left alone to uphold the glory of European arms. He did it nobly. With a mixed army of French, German, and English soldiers, amounting in all to 30,000, Richard performed feats of valour which have not been surpassed in the history of any time or nation. On the plains of Ascalon, a tremendous battle was fought with Saladin, and that brave and great man was defeated, and 40,000 of his soldiers are said to have been left dead upon the field of battle. But this conquest was unavailing, and the followers of Richard began to fear that there would be no end to their struggles. The zeal which had brought so many of them from their homes, and sustained them so long in absence, at last abated. Saladin readily concluded a treaty by which Christians might still be permitted to visit the tomb of Christ unmolested, and Richard left the Holy Land for ever. It is due to the memory of Saladin (who did not long survive this period) to state, that, after he made himself master of Jerusalem, he never molested the Christians in their devotions—a circumstance which, by contrast, reflects infinite disgrace on the cruel barbarities of the first Crusaders. In his last will, he ordered alms to be distributed among the poor, without distinction of Jew, Christian, or Mahometan; intending by this bequest to intimate, that all men are brethren, and that when we would assist them, we ought not to inquire what they believe, but what they feel—an admirable lesson to Christians, though from a Mahometan. But the advantages in science, in moderation, and humanity, seem at this period to have been all on the side of the Saracens.

There were no more great Crusades. Considerable bands of private adventurers still continued to move eastward; but disaster and disgrace attended every effort, and Europe at last became disheartened, when the bones of two millions of her sons lay whitened on the plains of Asia, and so little had been accomplished. Nevertheless, in the year 1202, Baldwin, Count of Flanders, was able to raise another considerable army for the rescue of the Holy Sepulchre; but having reached Constantinople at a time when there was a dispute in the succession to the throne, he readily laid aside the project of the Crusade, took part in the quarrel, and in the course of five months he was himself the emperor. The citizens of Venice, in Italy, who had lent their vessels for this enterprise, shared in the triumphs of the piratical Crusaders; they obtained the Isle of Candia, or Crete. Baldwin, however, was soon driven from the throne and murdered, though the Latins, as his successors from the west were called, kept possession of Constantinople for fifty-seven years.

At this period (1227) a great revolution took place in Asia. Gengis Khan, at the head of a body of Tartars, broke down from the north upon Persia and Syria, and massacred indiscriminately Turks, Jews, and Christians, who opposed them. The European settlements in Palestine must soon have yielded to these invaders, had not their fate been for a while retarded by the last attempt at a Crusade under Louis IX. of France. This prince, summoned as he believed by Heaven, after four years' preparation, set out for the Holy Land, with his queen, his three brothers, and all the knights of France (1248). His army began their enterprise, and we may say ended it also, by an unsuccessful attack on Egypt. The king went home, and reigned prosperously and wisely for thirteen years; but the same frenzy again taking possession of him, he embarked on a Crusade against the Moors in Africa, where his army was destroyed by a pestilence, and he himself became its victim (1270).

Before the end of the thirteenth century (1291) the Christians were driven out of all their Asiatic possessions. "The only common enterprise," says Robertson, "in which the European nations were engaged, and which they all undertook with equal ardour, remains a singular monument of human folly."

INSTITUTION OF CHIVALRY.—STATE OF EUROPE DURING AND AFTER THE CRUSADES.

Among the most remarkable institutions of the middle ages, was that of Chivalry. The institution was certainly not the result of caprice, nor a source of unmixed extravagance, as it has been represented, but an effort of human nature to express its feelings of love, honour, and benevolence, at a time when the spirit of liberty was extinguished, and religion had become debased. The feudal state was a state of perpetual war, rapine, and anarchy, during which the weak and unarmed were often exposed to injuries. Public protective law scarcely had an existence; and in these circumstances assistance came oftenest and most effec-

tually from the arms of private friends. It was the same feeling of courage, united to a strong sense of duty, which both gave rise to chivalry, and led such multitudes to join the Crusades. Chivalry existed before them, and it survived them. Those who devoted themselves to a life of chivalry were called knights, and sometimes knight-errants, in allusion to their habits of wandering from one country to another in search of helpless objects, which their generosity might find a pleasure in relieving and defending. Admission to the order of knighthood was long reckoned an honour of the highest sort; and to fulfil the vows which entrants took upon them, might well be considered so. They were bound, "by God, by St Michael, and St George," to be loyal, brave, and hardy; to protect the innocent, to redress the injuries of the wronged; and, above all, to uphold and defend the characters of women. The institution of chivalry is sometimes thought to have thrown an air of ridiculousness upon every thing connected with the softer sex, and some of the vagaries of knight errantry give sufficient countenance to such a supposition; but on the whole we are bound to rate its beneficial influences in elevating the female character high indeed, when we contrast the gross and grovelling situation held by the sex in former times with the high and virtuous emotions that we have learned to associate in modern times with the name of woman. If the whole of this effect is not to be ascribed to chivalry, not a little of it must certainly be so; nor do its beneficial effects end here. The feelings of honour, courtesy, and humanity, which distinguished it, spread themselves into other parts of conduct. War, in particular, was conducted with less ferocity, and humanity came to be deemed as necessary to an accomplished soldier as courage. The idea of a *gentleman* is wholly the production of chivalry; and during the twelfth, thirteenth, fourteenth, and fifteenth centuries, a sense of honour and a refinement of manners towards enemies sprung up, which have extended to modern times, and form a distinguishing feature of them.

The history of the Crusades has carried us over nearly two centuries of the history of Europe. But Europe might be said, almost without exaggeration, to have been then in Asia. It was certainly not the scene of any transaction of importance during all that period. The numerous quarrels, both public and private, which had before agitated the several countries, and had constituted all their history, gave way, by mutual consent, as well as by the orders of the church, to the one idea which then reigned supreme among them. Society was thus unconsciously the means of permitting some of those powerful and pacific principles to come into play, which were soon to give it a new destiny. The absence of so many great barons, during the time of the Crusades, was a means of enabling the common people, who had hitherto lived as their slaves, to raise themselves in public standing and estimation; while the possessions of many of these barons, by sale or the death of their owners without heirs, reverted to the sovereigns. In this way the power of the people and of royalty advanced together, and both at the expense of the class of nobility. The people were not unwilling to exchange the mastery of inferiors for that of a superior; and the kings on their part looked on this rising power of the people with pleasure, as it offered a shield to protect them from the insolence of the nobles. In these circumstances boroughs began to flourish. This was a new element in the progress of civilisation. Men who had hitherto skuiked in castles, and had sacrificed their liberties and their lives for bread and protection from isolated chiefs, now found that, by a union among themselves, they might secure bread by industry, and protection and liberty by mutual aid. Multitudes, therefore, forsook their feudal subservience to enjoy independent citizenship. Villeins, or labourers, joyfully escaped to take their place on a footing of equality with freemen; and sovereigns found means to pass a law that, if a slave should take refuge in any of the new cities, and be allowed to remain there unclaimed for a twelvemonth, he had thereby become free, and was hencef member of the community. Another impro which kings were able to introduce about this ti the gradual abolition of minor courts of justice, barons had previously held in their several dc and their getting public and universal law admin by judges of their own appointment. Even singl bat, the practice most inveterately adhered to among the ancient nobles, became less freque less honourable. The more revolting and absu tures of it were wholly abolished, though the gr surdity, and indeed the great crime itself, car said to have become totally extinct, even up to o day, when we recollect that the barbarous pra duelling is still permitted to exist.

The effect, however, produced by the Crusades proved greatest in its consequences, though per was the most unlooked for at the time, was the commerce. The first of these expeditions had jou to Constantinople by land; but the sufferings v great, that all the rest were induced to go by sea Italian cities of Venice, Genoa, and Pisa, furnisl vessels which conveyed them; and the sums of obtained for the freight of so many and so great were immense. This, however, was but a sma of what the Italian citizens gained by the expe to the Holy Land. The Crusaders contracte them for military stores and provisions; and any Asiatic possessions of value, which came temp into the hands of the Christians, became empori commerce for them. The sweet reward of labo thus first felt for ages in Europe. New art brought from the east, and many of those natur ductions of the warmer climates were first intr into the west, which have since afforded the m of a lucrative and extended commerce. We will in a separate section to the brilliant career of i of the Italian Republics.

In these views we represent the fairest side picture. There were yet many obstacles in the a complete and harmonious evolution of the pri of civilisation. But the elements all seemed have acquired existence, and time only was re to consolidate and strengthen them.

CONTINUATION OF THE HISTORY OF EUROPE T MIDDLE OF THE FIFTEENTH CENTURY.—RISE O NEW POWERS.

The most remarkable general feature of Eu society about the time of the Crusades was the influence. Between the pontiffs and the Germ perors there was kept up a perpetual struggle for but for a long time the advantage was almost with the popes. The treatment which some emperors received from them was extremely liating. Frederick Barbarossa was compelled the feet of his holiness, Alexander III., and to a him by a large cession of territory, after having nantly denied his supremacy, and refused the cust homage. Henry VI., while doing homage on his had his imperial crown kicked off by Pope Cele who, however, made some amends for this indig the gift of Naples and Sicily. Henry had expel Normans from these territories, which now l appendages of the German empire (1194). In t ginning of the thirteenth century, Pope Innoce was imagined to have permanently establishe powers of the holy see, and its right to confer t perial crown; but this proved far from being th In the time of Frederick II., who succeeded Ot (1212), the old contentions rose to more than th height, and two factions sprung up in Italy, kn the names of Guelphs and Ghibellines, the f maintaining the supremacy of the popes, and the that of the emperors. Frederick maintained th test which now arose between himself and the with much spirit; but, on his death (1250 splendour of the empire was for a considerabl

red. At length, Rodolph of Hapsbourg, a Swiss , was elected emperor (1274). Rodolph became under of the house of Austria, and ruled with rigour and moderation. His son, Albert I., was the s of causing the inhabitants of Switzerland to as- nd obtain their liberty, by his attempting to bind in subjection to one of his children, and then force to compel them. In the pass of Morgarten, ll army of four or five hundred of these brave taineers defeated an immense host of Austrians 5). Sixty pitched battles, it is said, were fought een the contending parties; but the spirit of Wil- Tell, who appeared at this time, and of his patriot rymen, rose above all attempts to enslave them; the Swiss cantons secured a freedom which their endants enjoy to this day. The further history of many, for nearly a century, is not politically impor- . Disputes between the emperors and the papacy continued, though the balance of advantage was oftener against the church. About the beginning he fifteenth century the great papal schism, as it called, took place. It arose from there being no er than three different claimants for the chair of Peter—Gregory XII., who was owned Pope by the lian states; Benedict XIII., by France; and Alexan- V., a native of Candia, by a number of the cardinals. schism proved very hurtful to the authority of the rch, though in that respect it benefited the interests ociety, and contributed to open men's eyes. The earance of John Huss at this time aided in producing effect. Huss proclaimed the same opinions as the English reformer Wickliffe. He was branded, of se, by the clergy as a heretic and propagator of tion. The general council of the Church, held at stance (1514), concocted no fewer than thirty-nine les in which Huss is said to have erred. Some of points he denied having professed, and others he ed to support by argument; but his voice was rned by the clamours of bigotry. His hair was n the form of a cross; upon his head was put a r mitre, painted with the representation of three ls; and he was delivered over to the secular judge, condemned both him and his writings to the flames. milar fate shortly after befell his disciple, Jerome ague, who is said to have exhibited the eloquence apostle and the constancy of a martyr at the (1416). In revenge for these cruelties, the Hus- of Bohemia kept up a war with the empire for ty years; and it was only after having their right press their opinions acknowledged that they de- d. The great schism lasted for many years. A olitan archbishop, named Bari, was elected and ed by the resident cardinals at Rome within a months. Boniface IX. and Innocent VI. were each orarily his successors. The result of the lengthened te may be stated to be, that papal authority was ly weakened; the government of the church was ght down among a class of ecclesiastics that had r before tasted the sweets of power, and future s were obliged to resort to such questionable prac- for the maintenance of their dignity, that men in ral began to lose respect for their sanctity, and a dation was laid for changes which it fell to the lot ther and others to effect.

e period which witnessed these transactions was rkable for the continued wars between France and land. In the beginning of the twelfth century, the us dispute for supremacy arose between Thomas- cket, Archbishop of Canterbury, and Henry II., h ended in the death of the prelate (1171), but in the ph of his principles. The beginning of the thir- h century is memorable in English history, as g witnessed the granting of the Magna Charta by John; and towards the conclusion of it appeared ard I., whose name is associated with the first t attempts to subdue the Scots on the part of Eng- The bravery of Wallace and of others averted calamity for ever. Wales was not so fortunate; Ireland had already become a conquered province. The grandson of Edward I., named Edward III., proved himself as ambitious and as sagacious as his predecessor. His attention, however, was greatly diverted from the kingdom of Scotland to that of France, with which country he commenced a war that proved greater in duration and extent than any that had occurred in Europe since the fall of the Roman empire. The proposal of subduing so great a country as France, and seating himself upon the throne of it, seemed at first to be the proposal of a madman; but in less than twenty years Edward had so effectually dismembered the different provinces, alienating some of the nobility and overawing others, that his attaining the object of his desires seemed by that time no improbable nor distant reality. His son, known in history as Edward the Black Prince, named so from the colour of his armour, contributed much, by his presence and his valour, to the success of the English arms. In the battle of Cressy, fought in 1346, with numbers greatly on the side of France, and in that of Poictiers, fought ten years later, under similar circumstances, the English were completely victorious. John, King of France, was taken prisoner, and the conduct of young Edward to his fallen enemy was generous and delicate in the highest degree, so that the French prisoners are said to have been overcome by the display of such an elevation of mind on the part of their conqueror, and to have burst into tears. This refinement was the result of chivalry, which both the Edwards attached themselves to, and rendered respectable by their virtues.

France was at this time in a deplorable state. A foreign enemy in the heart of the kingdom, the king a prisoner, the capital in sedition, and civil war raging over and above all—these were some of her accumulated misfortunes; and as if nature meant to conspire with man for her destruction, a plague broke out at this time among the people, and consummated the work of famine and the sword. This plague, however, was not confined to France, though, from the dilapidated state of that country, it proved perhaps in it most disastrous. It invaded every kingdom of Europe, and the English historian, Hume, computes that it swept away about one-third of the inhabitants of every country that it attacked. The origin of the disease is not well known; but there can be no doubt that it could only have made the ravages which it did among nations uncivilised and ignorant, heedless of all the cleanliness and comforts which we know, in modern times, to be necessary to the preservation of health. According to the ordinary account, this pestilence took its rise in the Levant about the year 1346, from whence Italian traders brought it to Sicily, Pisa, and Genoa. In 1348, it passed the Alps, and spread over France and Spain. In the next year it reached Britain, where, in London alone, 50,000 persons are said to have become its victims; and in 1350, it laid waste Germany and other northern states, lasting generally in each country about five months. At Florence more than three out of every five of the inhabitants were swept away. It is well known to those acquainted with Italian literature, that the time of Boccaccio's Decameron is laid during this pestilence.

While the plague lasted, a temporary truce had been agreed upon between the French and English. At that time the balance of advantage was greatly in favour of the English. Not to mention less important gains, all Guienne, Gascony, Poitou, Saintonge, the Limousin, and the Angoumois, as well as Calais, and the county of Pointhieu, were ceded in full sovereignty to Edward, and the empty title of King of France was all that he became bound to give up (1360). But it was found impossible to retain possessions in the heart of a foreign country, though won by consummate bravery and ruled with no imprudence. In less than ten years (1368), the war was recommenced, and the English began to lose many of the provinces which they had previously acquired. Charles V., who had acted as regent in France during the captivity of his father John, and was now his successor on the throne, contributed greatly by his

wisdom to this result; and his general, Du Guesclin, contributed not less to it by his valour. England had lost both its Edwards, and Richard II. proved destitute of abilities for leading on the enthusiasm of his countrymen to any thing great. Charles died prematurely, however, a circumstance which proved unfortunate for France, as his son, the sixth of the same name, was a very unworthy successor. For forty years, Charles VI. may be said to have borne the name of king, rather than to have reigned in France. The wealth accumulated by Charles the Wise, was, in the first place, stolen by the Duke of Anjou, and afterwards, by reason of want of funds, and misapplication of what they had, Charles VI. and his ministers were fully more engaged in quarrels with the citizens of Paris and other subjects, than in any becoming efforts to expel the English. History records, however, that the king became totally imbecile in mind (1393), so that he was, by universal consent, excluded from all share in the government, and the houses of Burgundy and Orleans long struggled for the regency. At this period, Henry V. of England put in a claim for the government of the kingdom, on the strength of a distant relationship to the reigning family; and, after having gained the memorable battle of Agincourt (1415), he was actually promised the throne on the death of Charles, though his own death prevented this from ever taking place. It may be worth remarking, that *cards* were invented in this age. The desire to amuse the silly king of France was the cause. In the year 1422, Charles VII., surnamed the Victorious, was crowned King of France at Poictiers, while the crown was claimed on the part of Henry VI. of England, yet an infant. The war continued, and the English were like to have proved victorious, when a simple maiden, named Joan of Arc, made her appearance at the head of the armies of France, and turned the tide of fortune in favour of her country. Apparently mistaking the impulses of superstition for divine inspiration, she gave out that she had been commissioned by Heaven to save her country; and having succeeded in inspiring the French soldiery with that belief, she led them on to battle, and they proved victorious. It must be recorded, to the disgrace of our countrymen, that Joan, being shortly after taken prisoner, was condemned to be burnt as a sorceress. The French, however, were but the more exasperated at this; and their victory of Formigny, and the death of Talbot, perhaps the greatest English warrior of the age, now left them in possession of all their country, with the exception of Calais and Greignes (1450).

Of all that was done by England to obtain a footing in France, a barren title to our sovereigns alone is all that was preserved till a recent period. The power and spirit of the French nation rose above all calamities, and in less than half a century, having freed herself of every enemy at home, her arms were in a condition to be directed externally with effect. The invasion of Naples by Charles VIII. was the event that first engaged the principal states of Europe in relations of alliance or hostility, which may be deduced to the present day, and is the point which most appropriately terminates the history of the middle ages.

During this period, several of those countries in the north of Europe, which have made a considerable figure in modern history, for the first time attracted attention. The greatest of these was Russia. In the middle of the thirteenth century, the tribes of Tartary made a complete conquest of this country, and for about a hundred years they maintained their supremacy. At length Ivan ascended the throne of Moscow (1462), and overcoming the Tartars, established a kingdom of his own, and was able to form an alliance with the Emperor Maximilian of Germany, who did not hesitate to style him brother. This was the first entrance of Russia into European politics.

Before the end of the fourteenth century, the Christian religion had penetrated into Denmark, Sweden, Prussia, and Poland; but it failed in producing any immediate beneficial effect. The political events which took place in these countries, however, were very various at this period, but proved too unimportant their results to admit of being even outlined here.

THE ITALIAN REPUBLICS.—COMMERCE IN GENERAL.

Among the Italian cities, Venice, at the extremity the Adriatic, Ravenna, at the south of the mouth of t Po, Genoa, at the foot of the Ligurian mountains, Pi towards the mouths of the Arno, Rome, Gaëta, Napl Amalphi, and Bari, were either never conquered the Lombards, or were in subjection too short a tir to have lost many of their ancient habits and custom In this way, these cities naturally became the refu of Roman civilisation, at a time when other parts Europe were wading through barbarian darkness. T feudal system never prevailed among them with a force; and several of these and other cities had impo tant privileges conferred upon them by the Germ emperors at a very early period. Sismondi, the hist rian of Italy, asserts that Otho I. (936) erected son of them into municipal communities, and permitt them the election of their own magistrates. It is ce tain that, in 991, the citizens of Milan rose in tumu expelled an archbishop from their city, and were ab to establish a qualified right to interfere in future ele tions. The after history of Milan is eventful and tr gical; but we can only give a short account of it her In the middle of the twelfth century, Frederic Barba rossa became engaged with the cities of Lombardy, an particularly with it, in extensive and destructive war In the year 1162, Milan was finally overcome; the walls and houses were razed from their foundation, and the suffering inhabitants dispersed over other cities, ob taining sympathy in their distress, and communicating their enthusiastic love of freedom in return. The republican form of government was adopted in every considerable town; and before the end of the thirteenth century, there was a power and knowledge among these apparently insignificant republics that all Europe could not match.

The beneficial though unlooked-for effect of the Crusades upon commerce has already been mentioned. During the twelfth and thirteenth centuries, the commerce of Europe was almost entirely in the hands of the Italians, more commonly known in those ages by the name of Lombards. The republic of Pisa was one of the first to make known to the world the riches and power which a small state might acquire by the aid of commerce and liberty. Pisa had astonished the shores of the Mediterranean by the number of vessels and galleys that sailed under her flag, by the succour she had given the Crusaders, by the fear she had inspired at Constantinople, and by the conquest of Sardinia and the Balearic Isles. Immediately preceding this period, those great structures which still delight the eye of the traveller—the dome, the baptistry, the leaning tower, and the Campo Santo of Pisa, had all been raised; and the great architects that spread over Europe in the thirteenth century, had mostly their education here. But unfortunately, the ruin of this glorious little republic was soon to be accomplished. A growing envy had subsisted between it and Genoa during the last two centuries; and a new war broke out in 1282. It is difficult to comprehend how two simple cities could put to sea such prodigious fleets as those of Pisa and Genoa. Fleets of thirty, sixty-four, twenty-four, and one hundred and three galleys, were successively put to sea by Pisa, under the command of able generals; but on every occasion the Genoese were able to oppose them with superior fleets. On the 6th of August 1284, the Pisans were defeated in a naval engagement before the Isle of Meloria: thirty-five of their vessels were lost, five thousand persons perished in battle, and eleven thousand became prisoners of the Genoese. After a few further ineffectual struggles, Pisa lost its standing.

The greatest commercial, and altogether the most remarkable city of the Italian republics, was Venice. Secluded from the world, on a cluster of islands in the Adriatic, the inhabitants of this city had taken up their abode in the course of the fifth century, and they boasted

themselves to have been independent of all the revolutions which Europe had been undergoing since the fall of the Roman empire. This might be true to a great extent, though for long it was certainly more the result of their obscurity than their power. By the tenth century, however, the descendants of those fishermen that had first taken refuge here, were able to send fleets abroad which could encounter and overawe both Saracens and Normans. The Venetians had all along kept up a correspondence with Constantinople during the darkest periods of the middle ages. This was greatly renewed and extended about the time of the Crusades. When Constantinople was taken by the Latins (1204), the Venetians, under their doge, or chief magistrate, Henry Dandalo, became possessed of three-eighths of that great city and of the provinces, and Dandalo assumed the singularly accurate title of Duke of three-eighths of the Roman Empire. The Venetians greatly increased their share of the spoil by making advantageous purchases from the more needy of the Crusaders. Among the most important of these was the Isle of Candia, which they retained till the middle of the seventeenth century. The idea of a bank took its rise in this city, and an establishment of that nature, simply for the receipt of deposits, is said to have existed in it as soon as the year 1157. But it was not till about a century later that banking, as the term is now understood, began at all to be practised. The merchants of Lombardy and of the south of France, began at that time to remit money by bills of exchange, and to make profit upon loans. The Italian clergy who had benefices beyond the Alps, found the new method of transmitting money exceedingly convenient, and the system of exacting usury or interest, after experiencing every obstruction from ignorance and bigotry, became a legal part of commerce. In the thirteenth century the government of Venice was entirely republican; but continued wars with Genoa reduced both cities. These wars were all conducted on the seas, and the display of naval strength on both sides seems prodigious when we reflect on the poor condition of Italy at the present day. Besides these wars for objects of ambition, there were continual jealousies which rose above enlightened views of self-interest, and led to the most disgraceful broils. At the middle of the fourteenth century, a battle took place between the rival citizens, in which the Genoese were defeated. Their loss was immense, and in distress and in revenge they gave themselves up to John Visconti, Lord of Milan, then the richest and among the most ambitious of the petty tyrants of Italy, hoping that he would give them the means to re-establish their fleet and continue the war with the Venetians. He did so, and in another naval engagement, fought in 1354, in the Gulf of Sapienza, the Venetians were entirely defeated. But the Genoese had sacrificed their liberty in their thirst for revenge. Visconti became their master, instead of friend. Venice was able to rise above its temporary discomfiture, and during the fifteenth century its fame and power became greater than they had ever been before. In the beginning of the fifteenth century the Venetians captured the town of Padua, and gradually lost their empire of the sea, while they acquired possessions on the continent.

Among the most famous of the Italian states at this period was Florence; and its fame was founded, not on arms but on literature. Like the other Italian cities, however, it owed its first elevation to the commercial industry of its inhabitants. There was a curious division of the Florentine citizens, subsisting about the beginning of the thirteenth century, into companies or *arts*. These were at first twelve, seven called the greater arts, and five the lesser; but the latter were gradually increased to fourteen. The seven greater arts were those of lawyers and notaries, of dealers in foreign cloth, called sometimes *calimala*, of bankers or money-changers, of woollen-drapers, of physicians and druggists, of dealers in silk, and of furriers. The inferior arts were those of retailers of cloth, butchers, smiths, shoemakers, and builders. It was in the thirteenth century that Florence became a republic, and it maintained its independence for two hundred years. In the beginning of the fifteenth century, it became peculiarly distinguished by the revival of Grecian literature and the cultivation of the fine arts. Cosmo de Medici, who lived a citizen of Florence at this time, and was known by the name of the Grand Duke of Tuscany, descended from a long line of ancestors whose wealth had been honourably acquired in the prosecution of the *greater arts*, had more riches than any king in Europe, and laid out more money on works of learning, taste, and charity, than all the princes of his age put together. The same liberality and munificence distinguished his family for several generations.

The commercial success of the states of Italy induced the inhabitants of northern Europe to attempt similar enterprises. In the thirteenth century the sea-ports on the Baltic were trading with France and Britain, and with the Mediterranean. The commercial laws of Oleron and Wisbuy (on the Baltic) regulated for many ages the trade of Europe. To protect their trade from piracy, Lubec, Hamburgh, and most of the northern sea-ports, joined in a confederacy, under certain general regulations, termed the *League of the Hanse Towns;* a union so beneficial in its nature, and so formidable in point of strength, as to have its alliance courted by the predominant powers of Europe. "For the trade of the Hanse towns with the southern kingdoms, Bruges on the coast of Flanders was found a convenient entrepôt, and thither the Mediterranean merchants brought the commodities of India and the Levant, to exchange for the produce and manufactures of the north. The Flemings now began to encourage trade and manufactures, which thence spread to the Brabanters; but their growth being checked by the impolitic sovereigns of those provinces, they found a more favourable field in England, which was destined thence to derive the great source of its national opulence."—(*Tytler.*)

THE TURKS.—FALL OF CONSTANTINOPLE.

We have already seen the weakness of the empire of Constantinople at the time of the Crusades; we have seen the city sacked and the government seized by the champions of the cross. The Greeks regained their empire in the year 1261, but in a mangled and impoverished condition. For nearly two centuries it continued in a similar state. Andronicus, son of Michael Palæologus, who had restored the Greek empire, allowed himself to be persuaded that, as God was his protector, all military force was unnecessary; and the superstitious Greeks, regardless of danger, employed themselves in disputing about the transfiguration of Jesus Christ, when their unfortunate situation made it necessary that they should have been studying the art of war, and training themselves to military discipline.

In the mean time, the Turks had become a powerful people. They had embraced the Mahometan religion long before the time of the Crusades, and proved powerful obstacles to the success of those expeditions. About the beginning of the fourteenth century, they established an empire of their own in Asia Minor, under Othman or Ottoman, and to this day the Ottoman Empire is a name given to the dominions of their descendants. By degrees they encroached on the borders of the empire of Constantinople, and they were only prevented from subverting it at a much earlier period than they did, by being called upon to defend themselves from the arms of an eastern conqueror who arose at this time. Tamerlane, otherwise called Timerbek, was a prince of the Usbek Tartars, and a descendant from Gengis Khan. After having overrun Persia, and a great part of India and Syria, this great conqueror was invited by some of the minor princes of Asia, who were suffering under the Ottoman tyranny, to come and protect them. Tamerlane was flattered by the request, and having brought a great army into Phrygia, he was there met by Bajazet, the Ottoman emperor, who readily gave battle, and was defeated and made prisoner (1402).

about the close of the tenth and beginning of the eleventh century, and which gained universal credit, wonderfully augmented the number of credulous pilgrims, and increased the ardour with which they undertook this useless voyage. The thousand years mentioned by St John [Rev. xx. 2, 3, 4] were supposed to be accomplished, and the end of the world to be at hand. A general consternation seized mankind; many relinquished their possessions, and, abandoning their friends and families, hurried with precipitation to the Holy Land, where they imagined that Christ would quickly appear to judge the world."

While Palestine continued subject to the caliphs, they had encouraged the resort of pilgrims to Jerusalem, and considered this as a beneficial species of commerce, which brought into their dominions gold and silver, and carried nothing out of them but relics and consecrated trinkets. But, the Turks having conquered Syria about the middle of the eleventh century, pilgrims were exposed to outrages of every kind from these fierce barbarians. This change happening precisely at the juncture when the panic terror which I have mentioned rendered pilgrimages most frequent, filled Europe with alarm and indignation. Every person who returned from Palestine related the dangers which he had encountered, in visiting the holy city, and described with exaggeration the cruelty and vexations of the Turks."

Among the most notorious of those who had returned with these accounts, was a monk known by the name of Peter the Hermit. By all accounts this individual seems to have been a weak-minded and contemptible being. He is represented as running from city to city, and from kingdom to kingdom, bare-headed, with naked arms and legs, and bearing aloft a ponderous crucifix in his hand, imploring and preaching with an enthusiastic madness on the necessity of wresting the Holy Land from the hands of the infidels. In a more enlightened age, Peter the Hermit would probably have been confined as a troublesome lunatic; in this, however, he was not only allowed to go on, but encouraged and abetted in his career. The ambitious Hildebrande had expressed a strong desire to send armed forces from Europe to exterminate the Mahometans from Palestine, in order that another country might be brought under his spiritual subjection; and Urban II., who at this time occupied the chair of St Peter, warmly seconded the efforts of the enthusiastic monk. Nor was Peter's success small. Vast multitudes proclaimed themselves ready to engage in the undertaking. Two great councils of the church, one of them held at Placentia and the other at Clermont, in Auvergne, attended by prelates, princes, and immense multitudes of the common people, declared enthusiastically for the war (1095). The pope himself attended at the last, and Peter and he having both addressed the multitude, they all exclaimed, as if impelled by an immediate inspiration, "It is the will of God! it is the will of God!" These words were thought so remarkable, that they were afterwards employed as the motto on the sacred standard, and came to be looked upon as the signal of battle and of rendezvous in all the future exploits of the champions of the cross. Persons of all ranks now flew to arms with the utmost ardour. The remission of penance, the dispensation from those practices which superstition imposed or suspended at pleasure, the absolution of all sins, and the assurance of eternal felicity, were the rewards held out by the church to all who joined the enterprise; and "to the more vulgar class," says Mr Hallam, "were held out inducements which, though absorbed in the overruling fanaticism of the first Crusade, might be exceedingly acious when it began to flag. During the time that ler bore the cross, he was free from suits for his debts, and the interest of them was entirely abolished; he was exempted, in some instances at least, from taxes, and placed under the protection of the church, so that he could not be impleaded in any civil court, except in criminal charges or questions relating to land." It was in the spring of the year 1096, that Peter the Hermit set out for Judea, at the head of a promiscuous assemblage of 80,000 men, with sandals on his feet, a rope about his waist, and every other mark of monkish austerity. Soon after, a more numerous and better disciplined force of 200,000 followed, including some able and experienced leaders. Godfrey of Bouillon, Robert, Duke of Normandy (son of William the Conqueror of England), the Counts of Vermendois, Toulouse, and Blois, are a few of the more illustrious. The progress of this immense mass of human beings on their journey was marked by misery and famine. They had vainly trusted to Heaven for a supernatural supply of their wants, and in their disappointment, they plundered all that came in their way. "So many crimes and so much misery," says Mr Hallam, "have seldom been accumulated in so short a space, as in the three years of the first expedition;" and another historian says, that a "fresh supply of German and Italian vagabonds," received on the way, were even guilty of pillaging the churches. It is certain that before the hermit reached Constantinople, the number of his forces had dwindled down to 20,000. Alexis Comnenus, then Emperor of Constantinople, who had applied to the states of Europe for assistance, without much hope of obtaining it, in order that he might be enabled to resist a threatened attack by the Turks upon himself, was surprised and terrified at the motley group of adventurers who had now reached the shore of his dominions. He readily afforded them the means of transporting themselves across the Bosphorus, and performed the same friendly office to the larger force which followed under Godfrey and others; glad, apparently, to have the barbarians of the north, as his subjects called them, out of his dominions. The Sultan Solyman met the army of the hermit, if army it could be called, and cut the greater part of it to pieces on the plains of Nicea. The second host proved more successful. In spite of their want of discipline, their ignorance of the country, the scarcity of provisions, and the excess of fatigue, their zeal, their bravery, and their irresistible force, enabled them twice to overthrow old Solyman, to take his capital, Nice, and, after an obstinate resistance, the city of Antioch also. (1098). At length (1099) they reached Jerusalem, much diminished in numbers and broken in spirit; but, with persevering assiduity, they proceeded to lay siege to the city, and in six weeks they became its masters. Their cruel conduct to the inhabitants attests the barbarous feelings of their hearts. "Neither arms defended the valiant, nor submission the timorous; no age nor sex was spared; infants on the breast were pierced by the same blow with their mothers, who implored for mercy; even a multitude of ten thousand persons, who had surrendered themselves prisoners and were promised quarter, were butchered in cold blood by these ferocious conquerors. The streets of Jerusalem were covered with dead bodies. The triumphant warriors, after every enemy was subdued and slaughtered, turned themselves, with the sentiments of humiliation and contrition, towards the holy sepulchre. They threw aside their arms, still streaming with blood; they advanced with reclined bodies and naked feet and heads, to that sacred monument; they sung anthems to him who had purchased their salvation by his death and agony; and their devotion, enlivened by the presence of the place where he had suffered, so overcame their fury, that they dissolved in tears, and bore the appearance of every soft and tender sentiment. So inconsistent is human nature with itself, and so easily does the most effeminate superstition ally, both with the most heroic courage and with the fiercest barbarity."

With a becoming foresight, the Crusaders established a Christian kingdom in the heart of Palestine; and at the head of it, by universal consent, was placed God-

am mentioned as corroborative of this general belief, that the priest usually commenced with these words: rld is now drawing to its close," and that an army, *der the Emperor Otho I.*, was so terrified by an *sun, which it conceived to announce* this consum- *disperse hastily on all sides*

ment, or at least the elevation, of the University of Oxford. The first efforts, however, at literary improvement, were marred by the subtleties of scholastic divinity. Perhaps the greatest and wisest literary character of the middle ages was an English friar, named Roger Bacon. This extraordinary individual was not only learned, but, what was more uncommon in those times, he was scientific. Hallam asserts that he was acquainted with the nature of gunpowder, though he deemed it prudent to conceal his knowledge. He saw the insufficiency of school philosophy, and was the first to insist on experiment and the observation of nature as the fittest instruments by which to acquire knowledge. He reformed the calendar, and made discoveries in astronomy, optics, chemistry, medicine, and mechanics.

It is to Italy, however, that we owe the first and greatest exertions in the revival of letters. The spirit of liberty which had arisen among its republics was favourable to the cultivation of literature; and accordingly we find that not only did they produce many individuals who were most active and successful in bringing to light the relics of classical lore, but that there also arose among them men possessed of the highest order of original genius. Florence produced Dante so early as 1265. Dante was associated with the magistracy of his native city in his earlier years, but, having given dissatisfaction in that capacity, he was banished, and in his exile produced his great poem entitled the Divine Comedy. It is a representation of the three supposed kingdoms of futurity—Hell, Purgatory, and Paradise—divided into one hundred cantos, and containing about 14,000 lines. The poem has been much praised. Petrarch, born in the year 1304, was likewise a Florentine by birth. The misfortunes of his father had impoverished the family, and Petrarch was too proud to take the usual method of retrieving his affairs. His genius, however, earned for him the friendship of many Italian princes, and even of more popes than one, although he had exerted his talents to expose the vices of their courts. Petrarch's personal character seems to have exhibited some unamiable traits; but he has sung of love, friendship, glory, patriotism, and religion, in language of such sweetness and power as to have made him the admiration of every succeeding age. Boccaccio, like the two great poets named, was also a Florentine. He was born in 1313, and his name has descended to posterity less associated with his poetry than the light, elegant, and easy prose of his novels. These were the production of his idle hours; and his Latin works, on which he supposed his fame to rest, have long since been forgotten.

The discovery of Justinian's Laws, as detailed in the Pandects (see HISTORY OF LAWS), was another event which powerfully tended to modify the barbarism that prevailed during the middle ages in Europe.

The invention of the Mariner's Compass must be reckoned of still greater importance, and yet it is absolutely unknown to whom we owe it. That honour has been often bestowed on Gioia, a citizen of Amalphi, who lived about the commencement of the fourteenth century. But the polarity of the magnet at least was known to the Saracens two hundred years before that time; though even after the time of Gioia, it was long before the magnet was made use of as a guide in navigation. "It is a singular circumstance," says Mr Hallam, "and only to be explained by the obstinacy with which men are apt to reject improvement, that the magnetic needle was not generally adopted in navigation till very long after the discovery of its properties, and even after their peculiar importance had been perceived. The writers of the thirteenth century, who mention the polarity of the needle, mention also its use in navigation; yet Capmany has found no distinct proof of its employment till 1403, and does not believe that it was frequently on board Mediterranean ships at the latter part of the preceding age." The Genoese, however, are known in the fourteenth century to have come out of that inland sea, and steered for Flanders and England. But by far the greatest sailors of the age were the Spaniards and Portuguese. This latter nation had little or no existence during the greater part of the middle ages, but in the twelfth, thirteenth, and fourteenth centuries, they were able to expel the Moors from a great part of their country; and in the beginning of the fifteenth, John, surnamed the Bastard, who was then their king, was the first European prince who exhibited a respectable navy. It was in the year 1486 that this adventurous people first doubled the Cape of Good Hope.

The discovery of America (1493) may be mentioned supplementarily to the invention of the mariner's compass, as an event which, without it, could never have taken place. The immortal honour of that discovery rests with Christopher Columbus, a sailor of Genoa. After unsuccessful applications at almost every court in Europe, and braving obloquy and contempt, Columbus at last obtained a miserable force from Ferdinand and Isabella of Spain, and with no landmark but the heavens, nor any guide but his compass, he launched boldly into the sea, and at last conducted Europeans to the great western hemisphere. The importance of that discovery, and its effect on the destinies of mankind, are subjects on which it is not our present purpose to dilate.

In the course of the fourteenth and beginning of the fifteenth centuries, various discoveries in the arts were made, which powerfully tended to the advancement of society; among these the more important were the invention of gunpowder and fire-arms, clocks and watches, paper-making, and printing. This last, the greatest of all, prepared the way for the Reformation in religion, in the sixteenth century, by which religious was added to civil freedom, and a great spur given to individual activity.

Important as these events were in their ultimate tendencies, it is to be remembered that they did not immediately make any distinct change in the comforts of the people. In the latter centuries of the middle ages, the amusements of the common people were metrical and prose romances, unintelligible prophecies, and fables of giants and enchanters. The state of England and of France, at this period, shows the small advance which had been made towards those comforts and improvements which now exist. Even in the large cities, the houses were roofed with thatch, and had no chimneys. "The two most essential improvements in architecture during this period," says Mr Hallam, "one of which had been missed by the sagacity of Greece and Rome, were chimneys and glass windows. Nothing apparently can be more simple than the former; yet the wisdom of ancient times had been content to let the smoke escape by an aperture in the centre of the roof; and a discovery, of which Vitruvius had not a glimpse, was made, perhaps in this country [England], by some forgotten semi-barbarian. About the middle of the fourteenth century, the use of chimneys is distinctly mentioned in England and in Italy; but they are found in several of our castles which bear a much older date. This country seems to have lost very early the art of making glass, which was preserved in France, whence artificers were brought into England to furnish the windows of some new churches, in the seventh century. It is said that, in the reign of Henry III., few ecclesiastical buildings had glazed windows. Suger, however, a century before, had adorned his great work, the abbey of St Denis, with windows not only glazed but painted; and I presume that other churches of the same class, both in France and England, were generally decorated in a similar manner. Yet glass is said not to have been employed in the domestic architecture of France before the fourteenth century, and its introduction into England was probably by no means earlier. Nor, indeed, did it come into general use during the period of the middle ages. Glazed windows were considered as moveable furniture, and probably bore a high price. When the Earls of Northumberland, as late as the reign of Elizabeth, left Alnwick Castle, the windows were taken out of their frames and carefully laid by."

By far the finest specimens of architecture which

the middle ages produced, were the religious edifices built in the twelfth and three following centuries. The superstition of the times was favourable to the production of works of that sort. To leave one's means for such a purpose was deemed so meritorious as to entitle the donor to eternal happiness in the next scene of existence; and men in this world thought it a duty to render structures designed for purposes so sacred as beautiful and becoming as they could. It was about the middle of the twelfth century that what has been called the Gothic style of architecture took its rise, of which the peculiar feature is thought to be the pointed arch, formed by the segment of two intersecting semicircles, struck from points equidistant from the centre of a common diameter. This style of architecture has been said by different individuals to have originated in France, in Germany, in Italy, and in England. The truth is, we neither know where it originated nor from what source it was derived. It has afforded antiquaries a curious subject of speculation how so perfect a system, as this has been thought, should not only have originated but reached perfection in times so dark. Any effectual explanation is probably now impossible; the knowledge of the art was never permitted to go beyond a fraternity of freemasons, and it is not to be supposed that the early archives of that mysterious association have survived so many revolutions.

The living even of the highest nobility under the Edwards was such as would not prove very palatable to their luxurious descendants. They drank little wine, had no foreign luxuries, rarely kept male servants except for husbandry, and still more rarely travelled beyond their native country. An income of £10 or £20 was reckoned a competent estate for a gentleman—at least the lord of a single manor would seldom have enjoyed more. A knight who possessed £150 a-year passed for extremely rich. Sir John Fortescue speaks of five pounds a-year as "a fair living for a yeoman;" and we read that the same sum (£5) served as the annual expense of a scholar attending the university. Modern lawyers must be surprised at the following, which Mr Hallam extracts from the churchwarden's accounts of St Margaret, Westminster, for 1476:—"Also paid to Roger Fylpott, learned in the law, for his counsel giving 3s. 8d., *with fourpence for his dinner*."

It has been remarked, that the wages of day-labourers, particularly those engaged in agriculture, were better in the times of Edward III. and Henry VI. than they have ever been at any other period of English history; nor can it be denied that this, upon the whole, is true. In the fourteenth century, a harvest man had fourpence a-day, which enabled him in a week to buy a comb of wheat; but, says Sir John Cullum, in his History of Hawsted, to buy a comb of wheat, a man must now (1784) work ten or twelve days. "So," says Mr Hallam, "under Henry VI., if meat was at a farthing and a half the pound, which, I suppose, was about the mark, a labourer earning threepence a-day, or eighteenpence in the week, could buy a bushel of wheat, at six shillings the quarter, and twenty-four pounds of meat, for his family. A labourer at present earning twelve shillings a-week, can only buy a bushel of wheat at eighty shillings the quarter, and twelve pounds of meat at sevenpence." It is thus undeniable that the day-labourers' wages could purchase greater quantities of certain kinds of food than the wages given to the same class of persons could do in the present day, but they wanted a thousand comforts which the meanest of our workmen now enjoy; and few surely would be willing to exchange all these blessings for the wars and miseries which Edward caused, even although they were ensured, along with them, of daily supplies of beef and ale, of which the ancient yeomen boasted.

The internal accommodation of houses was even less than their outward splendour. A gentleman's house containing three or four beds was thought to be extraordinarily well provided; few probably had more than two. The walls were commonly bare, without wainscot or even plaster, except that some great houses were furnished with hangings, and t haps, hardly so soon as the reign of Edv Neither books nor pictures could find a plac dwellings as these. Some inventories of bearing dates in the fourteenth century, have served to our own day, and they are curious a ing. In Sir F. Eden's work on the State of a carpenter's stock is said to have been value year 1301, at a shilling! In an inventory of of "John Port, late the king's servant," who d 1524, we find that this gentleman's house had of a hall, parlour, buttery, and kitchen, with steads, two chambers, three garrets, and sor accommodations. From this it may be infe Mr Port was a rather important man in his very few individuals at that time could boas accommodation. His plate was valued at jewels at L.23; and his funeral expenses am L.73, 6s. 8d.

Of all the arts necessary to existence, per of agriculture was in the most miserable condi ing the middle ages. On a thousand spots of la we now behold subjected to a fruitful cultivati was nothing to be seen at that time but "tracts ground, stagnating with bog or darkened by nati where the wild-ox, the roe, the stag, and the scarcely learned the supremacy of man." W first efforts at improvement in agriculture greater part of Europe to the monks. They the sake of retirement, secluded regions, wl cultivated with the labour of their hands. Anglo-Saxon husbandry we may remark," Turner, "that Doom's-day Survey gives us s cation that the cultivation of the church l much superior to that of any other. They l less wood upon them, and their meadow v abundant and in more numerous distribution culture of arable land in general was very ir according to Sir John Cullum, a full averag an acre sown with wheat amounted only to al or ten bushels—a circumstance, the knowledg may save us any surprise at a calculation by appears that, in the thirteenth century, the annual rent of an acre of arable land was pence to a shilling. In the time of Edward dinary price of a quarter of wheat appears to about four shillings. A sheep was sold high ling, and an ox might be reckoned at ten In considering these statements, however, money values, it must be recollected by perso day, that the precious metals were depreciated sively in their value by every sovereign in Eu enabled themselves in this way to pay debts *ance*, while in reality they were cheating their cr that extent; and sums of small name in those every way equal in value to greater sums in

At this time wine was sold only in the she English apothecaries. Yet the progress of it was called, had already begun to excite serio The Parliament of Edward III. passed an act ing the use of gold and silver in apparel had not a hundred pounds a-year; and Char France ordained that none should presume to their guests with more than two dishes and a me It is almost unnecessary to add, that laws of were passed only with a view to persons in th ranks; for others they were not needed. Cont history has recorded nothing of the poorer cl their slaughter in war; but we are at little lo ceive, that domestic comforts must have been slender among them, when we know that neith nor looking-glasses could be found in the bedro nobility. Ages over which this sketch does n were required before the great mass of hum should become possessed of personal comfo political rights.

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...ed. At length, Rodolph of Hapsburg, a Swiss ... was elected emperor (1274). Rodolph became ...eader of the house of Austria, and ruled with ...gour and moderation. His son, Albert I., was the ... of causing the inhabitants of Switzerland to as... obtain their liberty, by his attempting to bind ... subjection to one of his children, and then ...forces to compel them. In the pass of Morgarten, ... army of four or five hundred of these brave ...mountaineers defeated an immense host of Austrians ... Sixty pitched battles, it is said, were fought ...en the contending parties; but the spirit of Wil... Tell, who appeared at this time, and of his patriot ...ymen, rose above all attempts to enslave them; ...e Swiss cantons secured a freedom which their ...escendants enjoy to this day. The further history of ...any, for nearly a century, is not politically impor...

Disputes between the emperors and the papacy ...ntinued, though the balance of advantage was ...ewise against the church. About the beginning ... fifteenth century the great papal schism, as it ...alled, took place. It arose from there being no ... than three different claimants for the chair of ...ter—Clement XII., who was owned Pope by the ...n states; Benedict XIII., by France; and Alexan... a native of Candia, by a number of the cardinals. ...schism proved very hurtful to the authority of the ...h, though in that respect it benefited the interests ...iety, and contributed to open men's eyes. The ...arance of John Huss at this time aided in producing ...effect. Huss proclaimed the same opinions as the ...English reformer Wickliffe. He was branded, as ..., by the clergy as a heretic and propagator of ...sy. The general council of the Church, held at ...stance (1414), consigned no fewer than thirty-nine ...es in which Huss is said to have erred. Some of ...ese he denied having professed, and others he ...ed to support by argument; but his voice was ...ned by the clamours of bigotry. His hair was ... the form of a cross; upon his head was put a ... mitre, painted with the representation of three ...; and he was delivered over to the secular judge, ...condemned both him and his writings to the flames. ...ilar fate shortly after befell his disciple, Jerome ...gue, who is said to have exhibited the eloquence ... apostle and the constancy of a martyr at the ... (1416). In revenge for these cruelties, the Hus... of Bohemia kept up a war with the empire for ...y years; and it was only after having their right ...press their opinions acknowledged that they de... The great schism lasted for many years. A ...lian archbishop, named Bari, was elected and ...ed by the resident cardinals at Rome within a ...nasties. Boniface IX. and Innocent VI. were each ...arily his successors. The result of the lengthened ...e may be stated to be, that papal authority was ...y weakened; the government of the church was ...ght down among a class of ecclesiastics that had ... before tasted the sweets of power, and future ... were obliged to resort to such questionable prac... for the maintenance of their dignity, that men in ...al began to lose respect for their sanctity, and a ...ation was laid for changes which it fell to the lot ...ther and others to effect.

...e period which witnessed these transactions was ...rkable for the continued wars between France and ...and. In the beginning of the twelfth century, the ...e dispute for supremacy arose between Thomas... ...ket, Archbishop of Canterbury, and Henry II., ...h ended in the death of the prelate (1171), but in the ...ph of his principles. The beginning of the thir... century is memorable in English history, as ...g witnessed the granting of the Magna Charta by ... John; and towards the conclusion of it appeared ...rd I., whose name is associated with the first ... attempts to subdue the Scots on the part of Eng...

The bravery of Wallace and of others averted ...calamity for ever. *Wales was not so fortunate; Ireland had already become a conquered province.* The grandson of Edward I., named Edward III., proved himself as ambitious and as sagacious as his predecessor. His attention, however, was greatly diverted from the kingdom of Scotland to that of France, with which country he commenced a war that proved greater in duration and extent than any that had occurred in Europe since the fall of the Roman empire. The proposal of subduing so great a country as France, and seating himself upon the throne of it, seemed at first to be the proposal of a madman; but in less than twenty years Edward had so effectually dismembered the different provinces, alienating some of the nobility and overawing others, that his attaining the object of his desires seemed by that time no improbable nor distant reality. His son, known in history as Edward the Black Prince, named so from the colour of his armour, contributed much, by his presence and his valour, to the success of the English arms. In the battle of Cressy, fought in 1346, with numbers greatly on the side of France, and in that of Poictiers, fought ten years later, under similar circumstances, the English were completely victorious. John, King of France, was taken prisoner, and the conduct of young Edward to his fallen enemy was generous and delicate in the highest degree, so that the French prisoners are said to have been overcome by the display of such an elevation of mind on the part of their conqueror, and to have burst into tears. This refinement was the result of chivalry, which both the Edwards attached themselves to, and rendered respectable by their virtues.

France was at this time in a deplorable state. A foreign enemy in the heart of the kingdom, the king a prisoner, the capital in sedition, and civil war raging over and above all—these were some of her accumulated misfortunes; and as if nature meant to conspire with man for her destruction, a plague broke out at this time among the people, and consummated the work of famine and the sword. This plague, however, was not confined to France, though, from the dilapidated state of that country, it proved perhaps in it most disastrous. It invaded every kingdom of Europe, and the English historian, Hume, computes that it swept away about one-third of the inhabitants of every country that it attacked. The origin of the disease is not well known; but there can be no doubt that it could only have made the ravages which it did among nations uncivilised and ignorant, heedless of all the cleanliness and comforts which we know, in modern times, to be necessary to the preservation of health. According to the ordinary account, this pestilence took its rise in the Levant about the year 1346, from whence Italian traders brought it to Sicily, Pisa, and Genoa. In 1348, it passed the Alps, and spread over France and Spain. In the next year it reached Britain, where, in London alone, 50,000 persons are said to have become its victims; and in 1350, it laid waste Germany and other northern states, lasting generally in each country about five months. At Florence more than three out of every five of the inhabitants were swept away. It is well known to those acquainted with Italian literature, that the time of Boccaccio's Decameron is laid during this pestilence.

While the plague lasted, a temporary truce had been agreed upon between the French and English. At that time the balance of advantage was greatly in favour of the English. Not to mention less important gains, all Guienne, Gascony, Poitou, Saintonge, the Limousin, and the Angoumois, as well as Calais, and the county of Pointhieu, were ceded in full sovereignty to Edward, and the empty title of King of France was all that he became bound to give up (1360). But it was found impossible to retain possessions in the heart of a foreign country, though won by consummate bravery and ruled with no imprudence. In less than ten years (1368), the war was recommenced, and the English began to lose many of the provinces which they had previously acquired. Charles V., who had acted as regent in France during the captivity of his father John, and was now his successor on the throne, contributed greatly by his

Denmark. The remedy was found hardly any better than the disease. Having once acquired a footing in the island, these hardy strangers proceeded to make it a subject of conquest, as the Romans had done before, with this material difference, that they drove the British to the western parts of the island, particularly into Wales, and settled, with new hordes of their countrymen, over the better part of the land. So completely was the population changed, that, excepting in the names of some of the hills and rivers, the British language was extinguished, and even the name of the country itself was changed from what it originally was, to Angle-land, or England, a term taken from the Angles. The conquest required about a hundred and fifty years to be effected, and, like that of the Romans, it extended no farther north than the Firths of Forth and Clyde. Before the Britons were finally cooped up in Wales, many battles were fought; but few of these are accurately recorded. The most distinguished of the British generals were the Princes Vortimer and Aurelius Ambrosius: it is probably on the achievements of the latter that the well-known fables of Arthur and his knights are founded.

England, exclusive of the western regions, was now divided into seven kingdoms, called Kent, Northumberland, East Anglia, Mercia, Essex, Sussex, and Wessex, each of which was governed by a race descended from the leader who had first subdued it; and the whole have since been called by historians the *Saxon Heptarchy*, the latter word being composed of two Greek words, signifying *seven kingdoms*. To the north of the Forth dwelt a nation called the Picts, who also had a king, and were, in all probability, the people with whom Agricola had fought under the name of Caledonians. In the Western Highlands there was another nation, known by the name of the Scots, or Dalrinds, who had gradually migrated thither from Ireland, between the middle of the third century and the year 503, when they established, under a chief named Fergus, a monarchy destined in time to absorb all the rest. About the year 700, there were no fewer than fifteen kings, or chiefs, within the island, while Ireland was nearly in the same situation. In Britain, at the same time, five languages were in use, the Latin, Saxon, Welsh, (or British), the Pictish, and the Irish. The general power of the country has been found to increase as these nations and principalities were gradually amassed together.

Although three of the Saxon kingdoms, Wessex, Mercia, and Northumberland, became predominant, the Heptarchy prevailed from about the year 585 to 800, when Egbert, King of Wessex, acquired a paramount influence over all the other states, though their kings still continued to reign. Alfred, so celebrated for his virtues, was the grandson of Egbert, and began to reign in the year 871. At this time, the Danes, who are now a quiet, inoffensive people, were a nation of pirates, and at the same time heathens. They used to come in large fleets, and commit dreadful ravages on the shores of Britain. For some time, they completely overturned the sovereignty of Alfred, and compelled him to live in obscurity in the centre of a marsh. But he at length fell upon them, when they thought themselves in no danger, and regained the greater part of his kingdom. Alfred spent the rest of his life in literary study, of which he was very fond, and in forming laws and regulations for the good of his people. He was perhaps the most able, most virtuous, and most popular prince that ever reigned in Britain; and all this is the more surprising, when we find that his predecessors and successors, for many ages, were extremely cruel and ignorant. He died in the year 901, in the fifty-third year of his age.

CONQUEST BY THE NORMANS.

The Saxon line of princes continued to reign, with the exception of three Danish reigns, till the year 1066, when the crown was in the possession of a usurper named Harold. The country was then invaded by William, Duke of Normandy, a man of ille birth, attended by a large and powerful army. opposed him at Hastings (October 14), and, well-contested battle, his army was defeated, a self slain. William then caused himself to be king at Westminster; and in the course of a f he succeeded, by means of his warlike Nor lowers, in completely subduing the Saxons. H were settled upon the lands of those who oppo and became the ancestors of the present nc England.

Previously to this period, the church of Rom was the only surviving part of the power of t pire, had established its supremacy over Engla land was also subjected to what is called th system, by which all proprietors of land were s to hold it from the king for military service, wh tenants were understood to owe them military in turn, for their use of the land. All orders were thus kept in a chain of servile obedienc some of the lower orders were actually slaves superiors.

In the year 853, Kenneth, King of the Sc added the Pictish kingdom to his own, and scendant Malcolm II., in 1020, extended his do over not only the south of Scotland, but a par north of England. Thus, putting aside Wale continued to be an independent country, under princes, the island was divided at the time of t man Conquest, into two considerable kingdon land and Scotland, as they were for some c afterwards. Ireland, which had also been inv hordes from the north of Europe, was divide number of small kingdoms, like England under t tarchy.

EARLY NORMAN KINGS.

William, surnamed *The Conqueror*, reigne 1066 to 1087, being chiefly engaged all that completing the subjugation of the Saxons. He is to have been a man of much sagacity, and a firr but his temper was violent, and his disposition At the time of his death, which took place in Nor his eldest son Robert happening to be at a grea tance from London than William, who was the son, the latter individual seized upon the cr which he could not afterwards be dispossessed was shot accidentally by an arrow in the New in the year 1100. Towards the close of this reign, the whole of Christian Europe was agit the first crusade—an expedition for the recover Holy Land from the Saracens. Robert of No had a high command in this enterprise, and much fame as a warrior; but while he was i on his return, his youngest brother Henry usur throne left vacant by William, so that he wa disappointed of his birthright. HENRY I.—su *Beauclerk*, from his being a fine scholar—was a of some ability; but he disgraced himself by out the eyes of his eldest brother, and keepi nearly thirty years in confinement. Such ba conduct shows that, in this age, might was th right, and that men hesitated at no actions might promise to advance their own interests.

Contemporary with William the Conqueror i land, was MALCOLM III. in Scotland, surname *more*, from his having a large head. This after overthrowing the celebrated usurper M married Margaret, a fugitive Saxon princess, t whom his posterity became the heirs of that English sovereigns. He was a good prince, a settling Saxon refugees upon his lowland territo much to improve the character of the Scottish who are described as having been, before this t nation in which there was no admixture of civil At Malcolm's death, in 1093, the crown was co for a while by an usurper called Donald Bane, a elder sons of the late monarch, but finally fell peaceable possession of his youngest son DAVID

prince of much superior character, apparently, Norman sovereigns who lived in the same age. hurch of Rome having now gained an ascendancy eland, David founded a considerable number of teries and churches for the reception of the ers of that religion. All the most celebrated es in Scotland took their rise in his time.

ry Beauclerk of England, in order to strengthen aim by a Saxon alliance, married Maud, the ter of Malcolm Canmore and of the Princess aret. By her he had an only daughter of the name, whom he married first to the Emperor of ny, and then to Geoffrey Plantagenet, eldest son Earl of Anjou, in France. This lady, and her en by Plantagenet, were properly the heirs of the h crown; but on the death of Henry, in 1135, seized by an usurper named STEPHEN, a distant er of the Conqueror's family, who reigned for en years, during which the country was rendered : desolate by civil wars, in which David of Scot- ccasionally joined.

the death of Stephen, in 1154, the crown fell ully to HENRY II., who was the eldest son of , and the first of the Plantagenet race of sove- . Henry was an acute and politic prince, though any respect more amiable than his predecessors. ign was principally marked by a series of mea- for reducing the power of the Romish clergy, in urse of which, some of his courtiers, in 1171, ht they could not do him a better service than to r Thomas-à-Becket, Archbishop of Canterbury, ad been the chief obstacle to his views, and was the ablest and most ambitious men ever produced gland. For his concern in this foul transaction, had to perform a humiliating penance, receiving lashes on his bare back from the monks of Can- y. We are the less inclined to wonder at this stance, when we consider, that, about this time, pe had power to cause two kings to perform the l service of leading his horse.

ry was the most powerful king that had yet d in Britain. Besides the great hereditary do- which he possessed in France, and for which he mage to the king of that country, he exacted a rary homage from William of Scotland, the grand- David, a monarch of great valour, who took the me of *the Lion*, and who reigned from 1166 to

Henry also added Ireland to his dominions. land had previously been divided into five king- —Munster, Leinster, Meath, Ulster, and Con- t. The people, being quite uncivilised, were per- ly quarrelling among themselves; and this, with heathen religion, furnished a flimsy pretext for ing them from England. Dermot Macmorrough, f Leinster, having been dethroned by his subjects, ided an English warrior, Richard Earl of Strigul, ally called *Strongbow*, for the purpose of regaining ossessions. A body composed of fifty knights, y esquires, and four hundred and sixty archers, six hundred men, was enabled by its superior line to overthrow the whole warlike force that be brought against them; and the conquest was completed by Henry in person, who went thither 72. The military leaders were left to rule over untry, and they managed their trust so ill, that ish never became peaceable subjects of the Nor- king, as the English had gradually done.

RICHARD CŒUR DE LION.—JOHN.—MAGNA CHARTA.

ry II. was much troubled in his latter years by isobedience of his children. At his death, in 1189, s succeeded by his son RICHARD, styled *Cœur de* or the *Lion-hearted*, from his headstrong courage, ho was much liked by his subjects on that ac- , though it does not appear that he possessed any good qualities. At the coronation of Richard, ople were permitted to massacre many thousands tending Jews throughout the kingdom. Almost diately after his accession, he joined the King of France in a second crusade; landed in Palestine (1191), and fought with prodigious valour, but with no good result. On one occasion, being offended at a breach of truce by his opponent Saladin, he beheaded 5000 prisoners; whose deaths were immediately revenged by a similar massacre of Christian prisoners. In 1192, he returned with a small remnant of his gallant army, and, being shipwrecked at Aquileia, wandered in disguise into the dominions of his mortal enemy the Duke of Austria, who, with the Emperor of Germany, detained him till he was redeemed by a ransom, which impoverished nearly the whole of his subjects. This prince spent the rest of his life in unavailing wars with Philip of France, and was killed at the siege of a castle in Limousin, in 1199, after a reign of ten years, of which he had spent only about three months in England.

JOHN, the younger brother of Richard, succeeded, although Arthur, Duke of Bretagne, the son of an intermediate brother, was the proper heir. John, who was at once vain, cruel, and weak, alienated the affections of his subjects almost at the very first by the assassination of his nephew, which he is said to have performed with his own hands. The weakness of kings is often the means of giving increased liberties and privileges to the people. The paltry tyranny and wickedness of John caused his barons to rise against him, and the result was, that, on the 19th June 1215, he was compelled by them to sign what is called the *Magna Charta*, or Great Charter, granting them many privileges and exemptions, and generally securing the personal liberty of his subjects. The principal point concerning the nation at large, was that no tax or supply should be levied from them without their own consent in a Great Council—the first idea of a Parliament. Some excellent provisions were also made regarding courts of law and justice, so as to secure all but the guilty.

The Pope, it appears, regarded the Magna Charta as a shameful violation of the royal prerogative, and excommunicated its authors, as being worse, he said, than infidels. The opinion of a modern historian is very different. He says, "To have produced the Great Charter, to have preserved it, to have matured it, constitute the immortal claim of England on the esteem of mankind."

HENRY III.—ORIGIN OF PARLIAMENT.

John, at his death in 1216, was succeeded by his son, HENRY III., a weak and worthless prince, who ascended the throne in his boyhood, and reigned fifty-six years, without having performed one worthy act of sufficient consequence to be detailed. In his reign was held the first assemblage approaching to the character of a Parliament. It was first called in 1225, in order to give supplies for carrying on a war against France. The money was only granted on condition that the Great Charter should be confirmed; and thus the example was set at the very first, for rendering supplies a check upon the prerogative of the king, and gradually reducing that power to its present comparatively moderate level. Under the earlier Norman kings, and even, it is believed, under the Saxons, an assembly called the Great Council had shared with the sovereign the power of framing laws; but it was only now that the body had any power to balance that of the king, and it was not till 1265 that representatives from the inhabitants of towns were introduced.

EDWARD I. AND II.—ATTEMPTED CONQUEST OF SCOTLAND.

Henry III., at his death in 1272, was succeeded by his son EDWARD I., a prince as warlike and sagacious as his father was the reverse. He distinguished himself by his attempts to add Wales to his kingdom, an object which he accomplished in 1282, by the overthrow and murder of Llewellen, the last prince of that country. In the mean time, from the death of William the Lion in 1214, Scotland had been ruled by two princes, ALEXANDER II. and III., under whom it advanced considerably in wealth, civilisation, and comfort. On the death of Alexander III., in 1285, the crown fell to his grand-

daughter MARGARET, a young girl, whose father was Eric, King of Norway. Edward formed a treaty with the Estates of Scotland for a marriage between this princess and his son, whom he styled Prince of Wales. Unfortunately, the young lady died on her voyage to Scotland; and the crown was left to be disputed by a multitude of distant relations, of whom JOHN BALIOL and ROBERT BRUCE seemed to have the best right. Edward, being resolved to make Scotland his own at all hazards, interfered in this dispute, and being appointed arbitrator among the competitors, persuaded them to own, in the first place, an ill-defined claim put forward by himself of the right of paramountcy or superior sovereignty over Scotland. When this was done, he appointed Baliol to be his vassal king, an honour which the unfortunate man was not long permitted to enjoy. Having driven Baliol to resistance, he invaded the country, overthrew his army, and, stripping him of his sovereignty, assumed to himself the dominion of Scotland, as a right forfeited to him by the rebellion of his vassal. After he had retired, a brave Scottish gentleman, named William Wallace, raised an insurrection against his officers, and, defeating his army at Stirling in 1298, cleared the whole country of its southern invaders. But in the succeeding year, this noble patriot was defeated by Edward in person at Falkirk, and the English yoke was again imposed. It is to be remarked, that this could have hardly taken place if the common people, who rose with Wallace, and who were wholly of Celtic and Saxon race, had been led and encouraged by the nobility. The grandees of Scotland, and even the competitors for the crown, being recent Norman settlers, were disposed to pay obedience to the English sovereign.

Some time after the death of Wallace, while Edward was engrossed with his French wars, ROBERT BRUCE, Earl of Carrick, grandson of him who had competed with Baliol, conceived the idea of putting himself at the head of the Scots, and endeavouring, by their means, at once to gain the crown, and to recover the independence of the kingdom. After a series of adventures, among which was the unpremeditated murder of a rival named Comyn, Bruce caused himself, in 1306, to be crowned at Scone. For some time after he had to skulk as a fugitive, being unable to maintain his ground against the English officers; but at length he became so formidable, that Edward found it necessary (1307) to lead a large army against him. The English monarch, worn out with fatigue and age, died on the coast of the Solway Firth, when just within sight of Scotland, leaving his sceptre to his son EDWARD II. That weak and foolish prince immediately returned to London, leaving Bruce to contest with his inferior officers.

After several years of constant skirmishing, during which the Scottish king was able to maintain his ground, Edward resolved to make one decisive effort to reduce Scotland to subjection. In the summer 1314, he invaded it with an army of 100,000 men. Bruce drew up his troops, which were only 30,000 in number, at Bannockburn, near Stirling. Partly by steady valour, and partly by the use of stratagems, the Scots were victorious, and Edward fled ignominiously from the field. The Scottish king gained an immense booty, besides securing his crown and the independence of his country. He soon after sent his brother Edward, with a body of troops, to Ireland, to assist the native chiefs in resisting the English. This bold young knight was crowned king of Ireland, and for some time held his ground against the English, but was at length defeated and slain.

The weakness of Edward II. was chiefly shown in a fondness for favourites, into whose hands he committed the whole interests of his people. The first was a low Frenchman, named Piers Gaveston, who soon fell a victim to the indignation of the barons. The second, Hugh Spencer, misgoverned the country for several years, till at length the Queen and Prince of Wales raised an insurrection against the king, and caused him to be deposed, as quite unfit to reign. The Prince was then crowned as EDWARD III. (1327), being a about fourteen years of age; and, in the course months the degraded monarch was cruelly m in Berkeley Castle.

During the minority of the young king, the government were held by his mother and th March. Under their administration, a peace cluded with King Robert of Scotland, of whic the conditions was a full acknowledgment of t pendence of the Scottish monarchy, which ha matter of dispute for some ages.

EDWARD III.—RICHARD II.

Edward III., who soon after assumed full po destined to make good the remark prevalen time, that the kings of England were alterna and imbecile. He was a warlike and sagacious and inspired by all his grandfather's desire of In 1329, Robert Bruce died, and was succeed infant son DAVID II., to whom a young siste English king was married, in terms of the la Notwithstanding this connexion, Edward aided John Baliol in an attempt to gain the Scottis Edward Baliol overthrew the Regent of Sc Duplin, September 1332, and for two months as King of Scots, while David and his wife to in France. Though now expelled, Baliol af returned to renew his claims, and for many y country was harassed by unceasing wars, in w English took a leading part.

But for his attention being diverted to Fra ward III. would have made a more formidab to subdue Scotland, and might have succeed was led into a long course of warfare with Fr consequence of an absurd pretension which he its crown. In the victories which he gained a (August 26, 1346) and Poitiers (September 1 the national valour, his own, and that of his co son, the Black Prince, were shown conspicuou this lavish expenditure of the resources of his k in which he was supported by his parliament no permanent benefit, even to himself, for who it was made. In those days, almost all men well, but very few had the art to improve th tories. John, King of France, who had bee captive at Poitiers, and David, King of Scotla had been taken in 1346, while conducting an inv England, were at one time prisoners in Engla no permanent advantage was ever gained over the states thus deprived of their sovereigns. after about twenty years of active fighting, the king left France with little more territory than previously enjoyed. Edward had invaded S with a powerful army in 1356, but without mak impression. The Scots, under David's nephew, Stewart, effectually protected themselves, not on his arms, but from a proposal which David basely undertook to make, that Lionel, the thir the English king, should be acknowledged as cessor. Edward died in 1377, a year after the of his son the Black Prince; and notwithstan their brilliant exploits, the English territories in were less than at the beginning of the reign.

England was at this time affected more than other by the fashions of chivalry. This was a enthusiasm, which for some centuries pervad Christian Europe. It prompted, as one of principles, a heedless bravery in encountering a of danger. Its votaries were expected to be part bold in behalf of the fair sex, insomuch that a knight would sometimes challenge to mortal any one who denied his mistress to be the lov the world. Tournaments were held, at which clad in complete armour would ride against eac at full speed with levelled lances, merely to tr had the greatest strength and skill; and man killed on these occasions. It was a system full travagance, and tending to bloodshed; but, ne less, it maintained a courtesy towards females

e principle of honour, which we may be glad to considering how rude was almost every other of the age.

rd III. was succeeded by his grandson, RICHARD a boy of eleven years of age, and who proved person of weak and profligate character. The ns took advantage of the irregularity of his go- nt to strengthen their privileges, which they h difficulty sustained during the more powerful his predecessor. Early in this reign they d the right, not only of taxing the country, but ıg how the money was spent. Indignant at the r of a tax imposed upon all grown-up persons, ıantry of the eastern parts of England rose, in ınder a person of their own order, named Wat and advanced, to the number of 60,000, to Lon- ere they put to death the chancellor and primate, counsellors of their sovereign. They demanded olition of bondage, the liberty of buying and in fairs and markets, a general pardon, and duction of the rent of land to an equal rate. ing came to confer with them at Smithfield, , on some slight pretence, Walworth, mayor of n, stabbed Wat Tyler with a dagger—a weapon has since figured in the armorial bearings of tropolis. The peasants were dismayed, and ted, and no fewer than fifteen hundred of them hanged. Wat Tyler's insurrection certainly pro- d upon a glimmering sense of those equal rights nkind which have since been generally acknow- d; and it is remarkable, that at the same time the nes of the reformer Wickliffe were first heard of. learned ecclesiastic wrote against the power of the , and some of the most important points of the ish faith, and also executed a translation of the into English. His writings are acknowledged to been of material, though not immediate effect, in ing about the reformation of religion.

e country was misgoverned by Richard II. till when he was deposed by his subjects under the g of his cousin, Henry Duke of Lancaster. This n, though some nearer the throne were alive, was ed as HENRY IV., and his predecessor, Richard, on after murdered. In the mean time, David of ed died in 1371, and was succeeded by Robert rt, who was the first monarch of that family. rt I., dying in 1389, was succeeded by his son Robert ho was a good and gentle prince. He had two sons, l and James: the former was starved to death by ıde, the Duke of Albany; and the second, when ı way to France for his education, was seized by r IV. of England, and kept captive in that country ghteen years. Robert II. then died of a broken (1406), and the kingdom fell into the hands of ke of Albany, at whose death, in 1419, it was ed by his son Duke Murdoch, a very imbecile ıge.

HOUSE OF LANCASTER.

ry IV. proved a prudent prince, and compara- a good ruler. The settlement of the crown upon r parliament was a good precedent, though, per- ıaps dictated under the influence of his successful He was much troubled by insurrections, parti- ·a formidable one by Percy, Earl of Northum- l—and one still more difficult to put down, in where Owen Glendower, a descendant of the princes, kept his ground for several years.

ıe death of Henry IV. in 1413, he was succeeded son, who was proclaimed under the title of V. The young king attained high popularity, ınt of his impartial administration of justice, ı zeal to protect the poor from the oppressions superiors. His reign is less agreeably marked persecutions of the Lollards, a body of religious ırs, many of whom were condemned to the Being determined to use every endeavour to ı crown of France, which he considered his by birth, he landed in Normandy with 30,000 men (August 1415), and gave battle to a much superior force of the French at Agincourt. He gained a complete victory, which was sullied by his afterwards ordering a massacre of his prisoners, under the apprehension that an attempt was to be made to rescue them. The war was carried on for some years longer, and Henry would have probably succeeded in making good his claim to the French crown, if he had not died prematurely of a dysentery (August 31, 1422), in the thirty-fourth year of his age, leaving the throne to an infant nine months old, who was proclaimed as HENRY VI., King of France and England.

Under Henry VI., whose power was for some time in the hands of his uncle the Duke of Bedford, the English maintained their footing in France for several years, and at the battle of Verneuil, in 1424, rivalled the glory of Cressy and Poitiers. At that conflict, a body of Scotch, 7000 strong, who had proved of material service to the French, were nearly cut off. In 1428, when France seemed completely sunk beneath the English rule, the interests of the native prince were suddenly revived by a simple maiden, named Joan of Arc, who pretended to have been commissioned by Heaven to save her country, and, entering into the French army, was the cause of several signal reverses to the English. By her enthusiastic exertions, and the trust every where reposed in her supernatural character, Charles VII. was crowned at Rheims, in 1430. Being soon after taken prisoner, the heroic maiden was, by the English, condemned for witchcraft, and burnt. Nevertheless, about the year 1453, the French monarch had retrieved the whole of his dominions from the English, except Calais.

Henry VI. was remarkable for the extreme weakness of his character. His cousin, Richard, Duke of York, descended from an elder son of Edward III., and therefore possessed of a superior title to the throne, conceived that Henry's imbecility afforded a good opportunity for asserting what he thought his birthright. Thus commenced the famous *Wars of the Roses*, as they were called, from the badges of the families of York and Lancaster, the former of which was a red, while the latter was a white rose. In 1454, the duke gained a decisive victory over the forces of Henry, which were led by his spirited consort, Margaret of Anjou. In some succeeding engagements, the friends of Henry were victorious; and at length, in the battle of Wakefield (December 24, 1460), the forces of the Duke of York were signally defeated, and himself, with one of his sons, taken and put to death. His pretensions were then taken up by his eldest son Edward, who, with the assistance of the Earl of Warwick, gained such advantages next year, that he assumed the crown. Before this was accomplished, many thousands had fallen on both sides. Henry, who cared little for the pomp of sovereignty, was confined in the Tower.

Scotland, in the mean time (1424), had redeemed her king from his captivity in England; and that prince, styled JAMES I., had proved a great legislator and reformer, not to speak of his personal accomplishments in music and literature, which surpassed those of every contemporary monarch. James did much to reduce the Highlands to an obedience under the Scottish government, and also to break up the enormous power of the nobles. By these proceedings, however, he excited a deep hatred in the bosoms of some of his subjects; and, in 1437, he fell a victim to assassination at Perth. He was succeeded by his infant son JAMES II., the greater part of whose reign was spent in a harassing contention with the powerful house of Douglas, and who was finally killed in the flower of his age, by the bursting of a cannon before Roxburgh Castle. His successor, James III., was also a minor, and, on reaching man's estate, proved to be a weak though not ill-meaning prince. He fell a victim, in 1488, to a conspiracy formed by his subjects, and which was led by his eldest son. The morality of princes in this age seems to have been much upon a par with that ascribed to the Turkish sovereigns of a later period. They never

scrupled to destroy life, either within the circle of their own family, or out of it, when it suited their interests to do so.

HOUSE OF YORK.

Edward, of the House of York, styled EDWARD IV., who commenced his reign in the nineteenth year of his age, reigned ten years, perpetually disturbed by renewed attempts of the Lancastrian party, of which he mercilessly sacrificed many thousands who fell into his hands. At length, having offended the Earl of Warwick, who had been chiefly instrumental in placing him upon the throne, that powerful nobleman raised an insurrection against him, and in eleven days was master of the kingdom, while Edward had to take refuge on the Continent. Henry VI. was then restored, and Warwick acquired the title of King-maker. Nine months after (1471), Edward landed with a small body of followers, and, having called his partisans around him, overthrew and killed Warwick at St Alban's. Margaret of Anjou, who had fought battles for her husband in almost every province of England, gathered a new army, and opposed Edward at Tewkesbury Park, where she was completely defeated. Her son and husband, being taken, were murdered in cold blood, and she herself spent the remainder of her singular life in France. Edward reigned, a profligate and a tyrant, till 1483, when he died in the forty-second year of his age. He had previously caused his brother, the equally profligate Duke of Clarence, to be drowned in a butt of malmsey wine.

During the reign of Edward IV., the plague frequently broke out in England, and carried off immense numbers of the people. It was particularly fatal in London, and in all other places where many houses were huddled closely together, with imperfect means of cleaning and ventilation. It was calculated that the disease, on one occasion in this reign, destroyed as many lives as the fifteen years' war. The plague did not cease to occur in England, or in any other European country, until considerable improvements had taken place in the habits of the people, especially in point of cleanliness.

EDWARD V., the eldest son of Edward IV., was a boy of eleven years when he succeeded to the crown. His uncle, Richard, Duke of Gloucester, a wicked and deformed wretch, soon after contrived to obtain the chief power, and also to cause the murder of the young king and his still younger brother in the Tower. He then mounted the throne under the title of RICHARD III. For two years, this disgrace to humanity continued to reign, though universally abhorred by his people. At length, in 1485, Henry Tudor, Earl of Richmond, a connexion rather than a descendant of the Lancaster family, resolved to make an attempt upon the English crown. Having landed with about 2000 followers at Milford Haven, he advanced into the country, and speedily gained such accessions of force as enabled him to meet and overthrow Richard at Bosworth Field, where the tyrant was slain, and the victorious Richmond was immediately proclaimed king, under the title of HENRY VII. The new monarch soon after sought to strengthen his title by marrying Elizabeth, the daughter and heir of Edward IV., by which it was said the families of York and Lancaster were united.

HOUSE OF TUDOR.—HENRY VII.

Under Henry VII. the country revived from the evils of a long civil war, in the course of which the chief nobility had been broken down, and the industry and commerce of the land interrupted. It was remarkable, nevertheless, that, during the past period, England was upon the whole an improving country. The evils of war had fallen chiefly on those who made it; the government, however disturbed by various claimants of the throne, was mild and equitable—at least as compared with that of other countries; and the people throve under a system in which their own consent, by the voice of the House of Commons, was necessary to the making of every new law, and the laying on of every tax.

The reign of Henry VII. was much distu insurrections, in consequence of his imperfect t baker's boy, named Lambert Symnel, and a Je named Perkin Warbeck, were successively set the York party, the one as a son of the late D Clarence, and the other as the younger bro Edward V., but were both defeated. Warbe hanged at Tyburn in 1499, and nearly about th time, Henry procured, by forms of law, the d the Earl of Warwick, the real son of the late D Clarence, a poor idiot boy, whom he had kept years in confinement, and whose title to the being superior to his own, rendered him uneas

Henry, though a cruel prince, as were most sovereigns of his age, was a sagacious and p ruler. He paid great attention to all his affai in some of his acts, looked far beyond the prese For example, by marrying his daughter Marg James IV. of Scotland, he provided for the po of the future union of the two crowns. By a law ing men of property to break entails, he ensu reduction of the great lords, and the increase number of small proprietors. His constant pol to depress the chief nobles, and to elevate the lawyers, and men of new families, as most likel dependent on him. The greatest fault of his ch was his excessive love of money, of which he a an immense sum. During his reign, Ireland wa more dependent on the English crown by a prohibiting any parliament from being held in the king should give his consent.

HENRY VIII.

Henry VII. died in April 1509, in the fift year of his age. His eldest surviving son and suc HENRY VIII., was now in his eighteenth year. handsome, and supposed to be amiable, he enjo first a high degree of popularity. Some years he had been affianced to Catherine, a Spanish pr who had previously been the wife of his de brother Arthur: he was now married to this la Pope having previously granted a dispensation f purpose. For many years the reign of Henry v marked by any unusual incidents. The chief a stration of affairs was committed to a low-bo proud churchman, the celebrated Cardinal W The king became much engaged in continental p and during a war which he carried on against h his brother-in-law James IV., who sided with tha made an unfortunate irruption into the north o land, and was overthrown and slain, with the g part of his nobility (September 9, 1513), at Flod

About this time some changes of great impo to European society took place. Almost ever sin destruction of the Roman empire, the nations arose out of it had remained in subjection to the see, which might be said to have inherited the un sway of that government, but altered from an au over the bodies of men to an empire over their In the opinion of many, this authority of the R Catholic religion had, in the course of time, b much abused, while the religion itself was corru many superstitious observances. So long as m continued to be the thoughtless warriors and unl peasants which they had been in the middle age not probable that they would ever have called in tion either the authority of the pope or the pu the Catholic faith. But, with knowledge, and th of a commercial and manufacturing class, came position to inquire into the authority of this gre gious empire. The art of printing, discovered the middle of the preceding century, and whic now rendering literature accessible to most cla the community, tended greatly to bring about th volution in European intellect. The minds of indeed, seem at this time as if awaking from a sleep; and it might well have been a question persons who had reflection, but no experience, wh the change was to turn to evil or to good.

hen men's minds are in a state of preparation for reat change, a very small matter is required to hem in motion. At Wirtemberg, in Germany, was an Augustine monk, named Martin Luther, became incensed at the Roman see, in consequence ne injury which he conceived to have been done order, by the Pope having granted the privilege ing indulgences to the Dominican order of friars. a man of a bold and inquiring mind, he did not atisfied till he had convinced himself, and many around him, that the indulgences were sinful, hat the Pope had no right to grant them. This ned about the year 1517. Controversy and per- on gradually extended the views of Luther, till length openly disavowed the authority of the and condemned some of the most important pe- ities of the Catholic system of worship. In these dings, Luther was countenanced by some of the in Germany, and his doctrines were speedily ished in the northern countries of Europe.

THE REFORMATION.

ry VIII., as the second son of his father, had riginally educated for the church, and still re- a taste for theological learning. He now distin- d himself by writing a book against the Lutheran es; and the Pope was so much pleased with it as st him the title of *Defender of the Faith*. Henry s destined, however, to continue long an adherent Roman pontiff. In the year 1527, he became ured of a young gentlewoman named Anne Bo- ho was one of his wife's attendants. He imme- conceived the design of annulling his marriage atherine, and marrying this younger and more ble person. Finding a pretext for such an act previous marriage of Catherine to his brother, mpted to obtain from the Pope a decree, declar- own marriage unlawful, and that the dispensation hich it had proceeded was beyond the powers former Pope to grant. The Pontiff (Clement was much perplexed by this request of King , because he could not accede to it without offend- arles V., Emperor of Germany, one of his best ters, and the brother of Queen Catherine, and ame time humbling the professed powers of the , which were now trembling under the attacks ber.

ry desired to employ the influence of his minister, al Wolsey, who had now reached a degree of ce and pride never before attained by a subject land. But Wolsey, with all his greatness, could sture to urge a matter disagreeable to the Pope, s more his master than King Henry. The pro- nt on for several years, and still his passion for Boleyn continued unabated. Wolsey at length ler the king's displeasure for refusing to serve this object, was stripped of all his places of nd wealth, and, in November 1530, expired at er Abbey, declaring that, if he had served his diligently as his king, he would not thus have ven over in his grey hairs. The uncontrollable f the king to possess Anne Boleyn, was destined e immediate cause of one of the most important that ever took place in England—no less than reformation of the national religion. In order l his marriage with Catherine, and enable him y Anne Boleyn, he found it necessary to shake authority of the Pope, and procure himself to owledged in Parliament as the supreme head English church. His marriage with Anne took 1533, and in the same year was born his cele- laughter Elizabeth.

536, Henry became as anxious to put away Anne as he had ever been to rid himself of Catherine. He had contracted a passion for ymour, a young lady then of the queen's bed- r, as Anne herself had been in that of Catherine. r to gratify this new passion, he accused Anne appears to have been an imaginary frailty, and within a month from the time when she had been an honoured queen, she was beheaded (May 19) in the Tower. On the very next day he married Jane Seymour, who soon after died in giving birth to a son (afterwards Edward VI.) His daughters, Mary and Elizabeth, were declared illegitimate by act of Parliament, and therefore excluded from the succession.

Hitherto, though professing independence of Rome, Henry still maintained, and even enforced, by severe and bloody laws, the most of its doctrines. He now took measures for altering this system of worship to something nearer the Lutheran model, and also for suppressing the numerous monasteries throughout the country. Being possessed of more despotic power, and, what is stranger still, of more popularity, than any former sovereign of England, he was able to encounter the dreadful risk of offending, by these means, a vastly powerful corporation, which seems, moreover, to have been regarded with much sincere affection and respect in many parts of England. No fewer than 645 monasteries, 2374 chanteries and chapels, 90 colleges, and 110 hospitals, enjoying altogether a revenue of £161,000, were broken up by this powerful and unscrupulous monarch. He partly seized the revenues for his own use, and partly gave them away to the persons who most actively assisted him, and who seemed most able to protect his government from the effects of such a sweeping reform. By this act, which took place in 1537, the Reformation was completed in England. Yet for many years Henry vacillated so much in his opinions, and enforced these with such severe enactments, that many persons of both religions were burnt as heretics. It was in the southern and eastern parts of England, where the commercial classes at this time chiefly resided, that the doctrines of the Reformation were most prevalent. In the western and northern parts of the country, Catholicism continued to flourish; and in Ireland, which was remotest of all from the Continent, the Protestant faith made little or no impression.

After the death of Jane Seymour, Henry married Anne of Cleves, a German princess, with whose person, however, he was not pleased; and he therefore divorced her by an act of Parliament. He next married Catherine Howard, niece to the Duke of Norfolk; but had not been long united to her when he discovered that she had committed a serious indiscretion before marriage. This was considered a sufficient reason for beheading the unfortunate queen, and attainting all her relations. Though Henry had thus murdered two wives, and divorced other two, and become, moreover, a monster in form as well as in his passions and mind, he succeeded in obtaining for his sixth wife (1543) Catherine Parr, widow of Lord Latimer, who, it is certain, only contrived to escape destruction by her extraordinary prudence. Almost all who ever served Henry VIII. as ministers, either to his authority or to his pleasures, were destroyed by him. Wolsey was either driven to suicide, or died of a broken heart; Thomas Cromwell, who succeeded that minister, and chiefly aided the king in bringing about the Reformation—Sir Thomas More, lord chancellor, the most virtuous, most able, and most consistent man of his time—the Earl of Surrey, who was one of the most accomplished knights of the age, and the first poet who wrote the English language with perfect taste—all suffered the same fate with Anne Boleyn and Catherine Howard.

When James IV. died at Flodden, in 1513, the Scottish crown fell to his infant son JAMES V., who struggled through a turbulent minority, and was now a gay, and, upon the whole, an amiable prince. His uncle, Henry VIII., endeavoured to bring him into his views respecting religion; but James, who was much in the power of the Catholic clergy, appears to have wished to become the head of the Popish party in England, in the hope of succeeding, by their means, to the throne of that country. A war latterly broke out between the two monarchs, and the Scottish army having refused to fight, from a dislike to the expedition, James died (December 1542) of a broken heart, leaving an only

child, MARY, who was not above a week old. Henry immediately conceived the idea of marrying his son Edward to this infant queen, by which he calculated that two hostile nations should be united under one sovereignty, and the Protestant Church in England be supported by a similar establishment in Scotland. This project, however, was resisted by the Scots, of whom very few as yet were inclined to the Protestant doctrines. Henry, enraged at their hesitation, sent a fleet and army, in 1544, to inflict vengeance upon them. The Scots endured with great patience the burning of their capital city, and many other devastations, but still refused the match. The government of Scotland was now chiefly in the hands of Cardinal Beaton, a man of bold and decisive intellect, who zealously applied himself to suppress the reforming preachers, and regarded the English match as likely to bring about the destruction of his religion.

EDWARD VI.—QUEEN MARY.

Henry died, January 28, 1547, leaving the throne to his only son, a boy of ten years of age, who was immediately proclaimed king under the title of EDWARD VI. The Duke of Somerset, maternal uncle to the young king, became supreme ruler under the title of Protector, and continued to maintain the Protestant doctrines. Under this reign, the church of England assumed its present form, and the Book of Common Prayer was composed nearly as it now exists. Somerset being resolved to effect, if possible, the match between Edward VI. and Mary of Scotland, invaded that country in autumn 1547, and was met at Musselburgh by a large army under the governor, the Earl of Arran. Though the Scotch were animated by bitter animosity against the English, against their religion, and against the object of their expedition, they did not fight with their usual resolution, but were defeated, and pursued with great slaughter. Finding them still obstinate in refusing to give up their queen, Somerset laid waste a great part of the country, and then retired. Previous to this period, Cardinal Beaton had been assassinated by private enemies; but the Scotch were encouraged to persevere by the court of France, to which they now sent the young queen for protection.

In the reign of Edward VI. the government was conducted mildly, until the Protector Somerset was degraded from his authority by the rising influence of Dudley, Duke of Northumberland, who caused him soon after to be tried and executed. Northumberland, who was secretly a Roman Catholic, was not so mild or popular a ruler. Yet, throughout the whole reign of Edward VI., which was terminated by his death on the 6th of July 1553, at the early age of sixteen, no religious party was persecuted, except those who denied the fundamental doctrines of the Christian religion. It would have been well for the honour of a church which has produced many great men, and to which the modern world is indebted for the very existence of Christianity, if it had not been tempted after this period to commence a very different course of action. The crown now belonged by birthright to Mary, the eldest daughter of Henry VIII., who was a zealous Catholic. Northumberland, however, assuming the illegitimacy of that princess and her sister Elizabeth, set up as queen the Lady Jane Grey, who was descended from a younger sister of King Henry, and who had been married to a son of the Duke of Northumberland. Lady Jane was the most beautiful, most intelligent, and most amiable of all the females who appear in the history of England. Though only seventeen, she was deeply learned, and yet preserved all the unaffected graces of character proper to her interesting age. Unfortunately, her father-in-law Northumberland was so much disliked, that the Catholics were enabled to displace her from the throne in eight days, and to set up in her stead the Princess Mary. Northumberland, Lady Jane, and her husband, Guildford Lord Dudley, were all beheaded by that savage princess, who soon after took steps for restoring the Catholic religion, and married Philip II., King of Spain, in order to strengthen herself against the Protestant interest. Mary experienced some resist from her Protestant subjects, and being under g suspicion of her sister Elizabeth, who professed the formed faith, but took no part against her, was al on the point of ordering her to execution also. As as she had replaced the Catholic system, and found self in possession of sufficient power, she began career of persecution which has rendered her nam infamous. Five out of fourteen Protestant bishops cluding the revered names of Cranmer, Latimer, Ridley, were committed to the flames as heretics; during the ensuing part of her reign, which was cl by her death, November 17, 1558, nearly three l dred persons suffered in the same manner. These se did not take place without exciting horror in the m of Englishmen in general, including even many Ca lics; but the royal authority was at all times too g under this line of princes to allow of effectual resista Such a persecution, however, naturally fixed in minds of the British Protestants a hereditary ho for the name of Catholic, which has in its turn l productive of many retaliatory persecutions al equally to be lamented. In the latter part of her r she was drawn by her husband into a war with Fra of which the only effect was the loss of Calais, the of the French possessions of the sovereigns of Engl The natural sourness of Mary's temper was incre by this disgraceful event, as well as by her wan children, and she died in a state of great unhappin

ELIZABETH.—MARY, QUEEN OF SCOTS.—REFORMATI IN SCOTLAND.

A more auspicious scene opened for England in accession of ELIZABETH, a princess of great native vi of mind, and who had been much improved by ad sity, having been kept in prison during the whole r of her sister. From the peculiar circumstances of E beth's birth, her right of succession was denied b the Catholics at home and abroad. This party sidered Mary, Queen of Scots, who was descended the eldest sister of Henry VIII., and had been bro up in the Catholic faith at the court of France, as legitimate sovereign. Elizabeth had no support in quarter, except among her Protestant subjects. Pope issued a bull, which, directly or indirectly, nounced her an usurper, and gave permission to subjects to remove her from the throne. The cou France professed to consider the Queen of Scots, had recently been married to the Dauphin, as Queen of England. Under these circumstances, E beth found no chance of safety except in restoring maintaining the Protestant religion in her own coun and in seeking to support it in all others where people were favourable to it. The Scottish nation be now engaged in a struggle with their regent, Mary Guise, in behalf of Protestantism, Elizabeth gladly ceded to a proposal made by the nobles of that coun and sent a party of troops, by whose assistance the formed religion was established (1560). In bring about this change, the chief native leaders were Jam Stewart, a natural son of King James V., and Jo Knox, who had once been a friar, but was now a P testant preacher. As a natural consequence of the ligation which the English queen had conferred u the Scottish reformers, she acquired an influence o the country which was never altogether lost.

About the time when the Scottish Parliament establishing the reformed religion, Mary of Gu breathed her last, leaving the country to be mana by the reforming nobles. Her daughter, the Queen Scots, now eighteen years of age, and the most bea ful woman of her time, had in 1559 become the qu consort of France; but, in consequence of the death her husband, she was next year left without any p tical interest in that country. She accordingly, August 1561, returned to Scotland, and assumed sovereignty of a country which was chiefly under rule of fierce nobles, and where the people, from

ice of their religious faith, as well as their native
nn, were little fitted to yield her the obedience
subjects.

REFORMATION IN SCOTLAND.

change of religion in Scotland was of a more
e kind than it had been in England. The Eng-
formation had been effected by sovereigns, who,
they wished to throw off the supremacy of the
and some of the Catholic rites, desired to give
e way as possible to popular principles. They
re not only seized the supremacy of the church
mselves, but, by bishops and other dignitaries,
t an efficient instrument for supporting monarchi-
rnment. In Scotland, where the Reformation
fected by the nobles and the people, at a time
still bolder principles had sprung up, none of this
nary of power was retained; the clergy were
l on a footing of perfect equality; they were all
n engaged in parochial duties, and only a small
f the ancient ecclesiastical revenues was allowed
m. In imitation of the system established at
a, their general affairs, instead of being intrusted
hands of bishops, were confided to courts formed
mselves. These courts, being partly formed by
ders, kept up a sympathy and attachment among
mmunity, which has never existed in so great a
e in the English church. What was of perhaps
greater importance, while a large part of the an-
revenues was absorbed by the nobles, a very con-
able portion was devoted to the maintenance of
h schools, under the express control of the clergy.
e at once formed regular nurseries of Protestant
tians, and disseminated the elements of learning
extensively over this small and remote country
it had ever been over any other part of the world.

MARY, QUEEN OF SCOTS.

een Mary, having little power in her own country,
obliged to govern by means of her natural brother,
es Stewart, whom she created Earl of Moray, and
was the leader of the Protestant interest in Scot-
l. Personally, however, she was intimately connected
the great Catholic powers of the Continent, and be-
a party, in 1564, to a coalition formed by them for
suppression of Protestantism all over Europe. She
never yet resigned her pretensions to the English
ne, but lived in the hope, that, when the Catholics
ded in every where subduing the Protestants, she
ld attain that object. Elizabeth, who had only the
rt of the Protestant part of her own subjects, with
ndly feeling among the Scotch and other unimpor-
Protestant nations, had great reason to dread the
deracy formed against her. She nevertheless
d firm upon the Protestant faith, and the principles
mparatively liberal and popular government, as
only safe position.

series of unfortunate events threw Mary into the
ds of Elizabeth. The former queen, in 1565, married
cousin Lord Darnley, and by that means alienated
affections of her brother and chief minister, the
of Moray, as well as of other Protestant lords, who
d a rebellion against her, and were obliged to fly
England. Soon after, the jealousy of Darnley,
ting an Italian musician named Rizzio, who
as French secretary to the queen, united him in
piracy with the banished Protestant noblemen
e murder of that humble foreigner, which was
d under very barbarous circumstances, March
. Mary, who was delivered in the succeeding
f her son James, withdrew her affections entirely
r husband, and began to confide chiefly in the
Bothwell, who some months afterwards caused
to be blown up by gunpowder, while he lay in
of sickness; in which transaction it has always
spected, but never proved, that the queen had
erable share. Bothwell soon after forced her,
rance, into a marriage, which excited so much
ion among her subjects, that the same Protes-

tant lords who had effected the Reformation, and were the friends of Elizabeth, easily obtained the possession of her person, and, having deposed her, crowned her infant son as king, under the title of JAMES VI., while the regency was vested in the Earl of Moray. In May 1568, Mary escaped from her prison in Lochleven, and put herself at the head of a body of her partisans, but was defeated by the regent at the battle of Langside, and was then compelled to seek refuge in England. By placing her rival under strict confinement, and extending an effectual protection to the regents Moray, Lennox, Mar, and Morton, who successively governed Scotland, Elizabeth fortified herself in a great degree against the Catholic confederacy.

GOVERNMENT OF ELIZABETH.

It has already been seen that the liberties of the people were much favoured by the frequent interruptions in the succession to the crown. Whenever one branch of the Plantagenet family displaced another, the new king, feeling himself weak, endeavoured to strengthen his title by procuring a parliamentary enactment in support of it. It thus became established as a regular principle in the English government, that the people who were represented in Parliament had something to say in the appointment of their king. A considerable change, however, had taken place since the accession of Henry VII. The great power acquired by that king, through his worldly wisdom and the destruction of the nobility during the civil wars, had been handed down through four successive princes, who inherited the crown by birthright, and did not require to cringe to the people for a confirmation of their title. The Parliaments, therefore, were now a great deal more under the control of the sovereign than they had formerly been. From an early period of his reign, Henry VIII. never permitted his Parliament to oppose his will in the least. To the various changes of religion under successive sovereigns, the Parliaments presented no obstacle. An idea was now beginning to arise, very much through the supremacy which the sovereigns had acquired over the church, that the right of the crown was one derived from God, and that the people had nothing to do with it, except to obey what it dictated to them. Of this notion, no one took so much advantage, or was at so much pains to impress it, as Elizabeth. No doubt, her arbitrary measures were generally of a popular nature, yet this does not excuse them in principle; and their ultimate mischief is seen in the attempts of future sovereigns to pursue worse ends upon the same means. Elizabeth's government consisted entirely of herself and her ministers, who were, from the beginning to the end of her reign, the very choice of the enlightened men of England. Her prime minister was the celebrated Lord Burleigh, by far the most sagacious man who ever acted as a minister in Britain; and all her emissaries to foreign courts were of one complexion—circumspect and penetrating men, devoted to their country, their mistress, and to the Protestant religion.

On the accession of Elizabeth, the two celebrated acts of supremacy and conformity were passed, for the purpose of crushing the political influence of the Popish religion; an end which they sufficiently accomplished. By the act of supremacy, all beneficed clergymen, and all holding offices under the crown, were compelled to take an oath abjuring the temporal and spiritual jurisdiction of any foreign prince or prelate, on pain of forfeiting their offices, while any one maintaining such supremacy was liable to heavy penalties. The other statute prohibited any one from following any clergyman who was not of the established religion, under pain of forfeiting his goods and chattels for the first offence, of a year's imprisonment for the second, and of imprisonment during life for the third; while it imposed a fine of a shilling on any one absenting himself from the established church on Sundays and holidays. By means of a court of ecclesiastical commission, which the queen erected, these laws, and others of a more trifling

and vexatious nature, were enforced with great severity. It may afford some idea of the barbarity of the age, and of the terror in which the Church of Rome was now held, that, during the reign of Elizabeth, one hundred and eighty persons suffered death by the laws affecting Catholic priests and converts.

WAR IN THE NETHERLANDS.

For more than a century after the Reformation, religion was the real or apparent motive of the most remarkable transactions in European history. It is scarcely necessary to point out that this sentiment, though in general the purest by which human beings can be actuated, is, like all the other higher sentiments of our nature, when offended or shocked, capable of rousing the inferior sentiments into great activity. In the sixteenth and seventeenth centuries, European society was comparatively unenlightened and barbarous; we therefore find that variances of opinion respecting religion were then productive of far fiercer feelings than they are in our own more humane age. The Protestant heresy, as it was termed by the Catholics, was also a novelty, the remote effects of which no man could foretell; it was mingled with political questions, and by some princes was supposed to forebode a general revolt against monarchical authority. We are not therefore to wonder that great cruelties were committed, either by the Catholics in seeking to support the Church of Rome, or by the Protestants in endeavouring to ensure themselves against a renewal of severities inflicted by the opposite party. Nor is it necessary, in the present age, that the adherents of either faith should retain any feeling of displeasure against the other, on account of barbarities which took their rise in the ignorance and rudeness of a former period, and of which the enlightened of both parties have long since disapproved.

In the Netherlands, which formed part of the dominions of Philip II. of Spain, the reformed faith had made considerable advances. Philip, like other Catholic princes, entertained the idea that this new creed, besides being condemnable as a heresy and an offence against the Deity, tended to make men independent of their rulers. Finding the people obstinate in their professions, he commenced a war with the Netherlanders, for the purpose of enforcing his authority over their consciences. This war lasted about twenty years; for the Netherlanders, though a nation of no great strength, fought like desperate men, and endured the most dreadful hardships rather than submit. The chief leader in this war of liberty was William, Prince of Orange, one of the purest and most courageous patriots that ever breathed. Elizabeth could not help wishing well to the Netherlanders, though for a long time her dread of Spain, then one of the greatest powers in Europe, prevented her from openly assisting them. At the same time, about two millions of the people of France were Protestants, or, as they were then called, Huguenots, who acted also for the general Protestant cause with as much energy as the great strength of the French government would permit. Elizabeth at length, in 1578, extended an open protection to the Netherlanders, excusing herself to Philip by stating her fear that they would otherwise throw themselves into the arms of France. The northern provinces were thus enabled to assert their independence, and to form the country which has since been called Holland.

DEATH OF MARY, QUEEN OF SCOTS.

The Catholic powers of the continent formed many schemes for annoying or dethroning Elizabeth; and the imprisoned Scottish Queen, or her adherents, were generally concerned in them. The King of Spain, determined at length to make a decisive effort, commenced the preparation of a vast fleet, which he termed the Invincible Armada, and with which he designed to invade the English shores. Elizabeth, her ministers, and people, beheld the preparations with much concern, and their fears were increased by the plots which were incessantly forming amongst her Catholic subjects in behalf of the Queen of Scots. An act was passed declaring that any person, by or *for* whom any plot should be made against the Queen of England, should be guilty of treason. When, soon after, a gentleman named Babington formed a conspiracy for assassinating Elizabeth and placing Mary on the throne, the latter queen became of course liable to the punishment for treason, although herself innocent. She was subjected to a formal trial in her prison of Fotheringay Castle, and found guilty. Elizabeth hesitated for some time to strike an unoffending and unfortunate person, related to her own blood, and her equal in rank. But at length fears for herself got the better of her sense of justice, and it may be added, of her good sense, and she gave her sanction to an act which leaves an ineffaceable stain upon her memory. On the 7th of February 1587 Mary, Queen of Scots, was beheaded in the hall of the castle, after a confinement of more than eighteen years.

James VI. was now, after a turbulent minority, in possession of the reins of government in Scotland, but with little real power, being a dependant and pensioner of Elizabeth, and at the same time much controlled by the clergy, who asserted a total independence of all temporal authority, and considered themselves as the subjects alone of the divine founder of the Christian faith. James made many attempts to assert a control over the church like that enjoyed by the English monarch, and also to introduce an Episcopal hierarchy, but never could attain more than a mere shadow of his object. The chief influence he possessed arose from his being regarded as heir-presumptive to the English crown.

SPANISH ARMADA.—REBELLIONS IN IRELAND.

In 1588, the Spanish Armada, consisting of a hundred and thirty great vessels, with twenty thousand land forces on board, set sail against England, while thirty-four thousand more land forces prepared to join from the Netherlands. Amidst the consternation which prevailed in England, active measures were taken to defend the country; thirty vessels prepared to meet the Armada, and another fleet endeavoured to block up the Netherlands forces in port. The command was taken by Lord Howard of Effingham. Troops were also mustered on land to repel the invaders. The English fleet attacked the Armada in the Channel, and was found to have a considerable advantage in the lightness and manageableness of the vessels. As the Armada sailed along, it was infested by the English in the rear, and by a series of desultory attacks, so damaged as to be obliged to take refuge on the coast of Zealand. The Duke of Parma now declined to embark the Netherland forces, and it was resolved by the admiral, that the should return to Spain by sailing round the Orkneys, the winds were contrary to their passage directly home. Accordingly, they proceeded northward, and were followed by the English fleet as far as Flamborough-head, where they were terribly shattered by a storm. Seventeen of the ships, having 5000 men on board, were cast away on the Western Isles and the coast of Ireland. Of the whole Armada, fifty-three ships only returned to Spain, and these in a wretched condition. The sea men, as well as the soldiers who remained, were overcome with hardships and fatigue, and so dispirited by their discomfiture, that they filled all Spain with accounts of the desperate valour of the English, and of the tempestuous violence of that ocean by which they were surrounded.

Though the Protestant church had meanwhile been established in Ireland, the great bulk of the people continued to be Roman Catholics. The native rudeness of the people and their chiefs, and the discontent occasioned by what was considered as a foreign church establishment, rendered the country turbulent and difficult to govern. Sir John Perrot, the deputy, proposed to improve the country by public works and English laws, but it was thought injurious to England to improve the

of Ireland. A series of rebellions under chiefs Neill was the consequence, and the English st was maintained with great difficulty, and mous expense. The rebellion of Hugh O'Neill, Tyrone, was particularly formidable. The fficers were at first unsuccessful, and met serious defeats. In 1599, Tyrone gained so ictory, that the whole province of Munster for him. He then invited the Spaniards to scent on Ireland, and join him. The queen her favourite, the Earl of Essex, with 20,000 ; he did not proceed with vigour, and soon d it necessary to return to England to justify Next year Tyrone broke the truce he had ith Essex, overran the whole country, and overeign of Ireland. If Spain had at this time the support he asked, Ireland might have vered from the English crown.

th now selected, as her deputy for Ireland, ord Mountjoy, who was in every respect d than Essex to conduct such a warfare. As ary step, this sagacious officer introduced nd disunion among the Irish chiefs. The ity of his movements tended to dispirit the . In 1601, six thousand Spaniards landed harbour, for the purpose of supporting the ountjoy immediately invested the place, and them from acting. Tyrone marched from f Ireland to their relief, and was met and n by a much inferior English force, after ale was surrendered. About the time when lied (1603), Tyrone submitted, and Ireland nore reduced under the authority of the Eng-

CONCLUSION OF THE REIGN OF ELIZABETH.

markable, that while Elizabeth increased in resources, she became more noted for femi-nesses. In her early years she had shown a and superiority to natural affections, not served in women. But in her old age, she th volatile and susceptible to an extraordi-ee; so that the hand which she had withheld, nger days, from the noblest princes of Europe, ly to be bestowed, in her old age, upon some rt minion. Her favourite in middle life was arl of Leicester, a profligate and a trifler. In r days she listened to the addresses of the Essex, a young man of greater courage and ciple, but also headstrong and weak. Essex, acquired popularity by several brilliant mili-rprises, began at length to assume an insolent ty over the queen, who was, on one occasion, provoked by his rudeness as to give him a x on the ear. Notwithstanding all his caprices n, the queen still doatingly forgave him, until gth attempted to raise an insurrection against e streets of London, when he was seized, con-nd after much hesitation, executed (February).

eth, in at last ordering the execution of Essex, d upon her usual principle of sacrificing her to what was necessary for the public cause; but ffort, made in the sixty-eighth year of her age, miscalculated the real strength of her nature. seem from that time to decline gradually in nd spirits.

the close of 1601, she fell into a deep hypo-or melancholy. She could scarcely be induced herself dressed, and at length became so much d by her sorrow as to refuse sustenance, and ays and nights on the floor, supported by a few brought to her by her attendants. On the March 1603, she expired, after a reign of nearly 5 years, during which England advanced from ition of a second-rate to that of a first-rate nd the Protestant religion was established on from which it could never afterwards be

The reign of Elizabeth saw the commencement of the naval glory of England. Down to the reign of Henry VII., there was no such thing as a navy belonging to the public, and the military genius of the people was devoted exclusively to enterprises by land. The rise, however, of a commercial spirit in Europe, which in 1492 had caused the discovery of America, and was again acted upon by the scope for adventure which that discovery opened up, had latterly caused great attention to be paid to nautical affairs in England. Englishmen of all ranks supported and entered into enterprises for discovering unknown territories; and under Drake, Cavendish, Raleigh, and Frobisher, various expeditions of less or more magnitude were sent out. The colonies of North America were now commenced. Amongst the exertions of private merchants, our attention is chiefly attracted by the commencement of the northern whale-fishery, the cod-fishery of Newfoundland, and the less laudable slave-trade in Africa. When hostilities with Spain became more open, the English commanders made many successful attacks upon her colonies in the West Indies, and also upon the fleets of merchant vessels which were employed to carry home the gold, and other almost equally valuable products of the New World, to the Spanish harbours. These attacks were now made in a more systematic manner, and with more effect, as a revenge for the affair of the Armada. It may almost be said that the dominion of Britain over the seas was perfected in one reign; a power which has been of such advantage to the country, both in protecting its commerce and keeping it secure from foreign invasion, that its origin would have conferred everlasting lustre on this period of our history, even although it had not been characterised by any other glorious event.

The chief articles exported from England to the Continent were wool, cloth, lead, and tin: formerly these had been sent in vessels belonging to the Hanse Towns —certain ports of the north of Europe, possessing great privileges—but now English vessels were substituted for this trade. Birmingham and Sheffield were already thriving seats of the hardware manufacture, and Manchester was becoming distinguished for making cottons, rugs, and friezes. Stocking-weaving and the making of sailcloth, serge, and baize, took their rise in this reign. The progress of other arts was much favoured by the bloody persecutions in the Netherlands, which drove into England great numbers of weavers, dyers, cloth-dressers, and silk-throwers. Amongst the wealthier classes, the wearing of handsome apparel and of gold ornaments and jewellery, made a great advance. Coaches were introduced, but for a time thought only fit for the use of ladies. Great improvements were made in the building of houses. Theatrical amusements were begun, and attained great vogue, though only in London. The smoking of tobacco was introduced by Sir Walter Raleigh, who became acquainted with the plant in Virginia. At the end of Elizabeth's reign, the population of London was about 160,000, or a tenth of what it now is; and the whole kingdom probably contained about 5,000,000 of inhabitants.

THE STUARTS.—JAMES I.

The successor of Elizabeth, by birthright, was JAMES VI. OF SCOTLAND (styled JAMES I. OF ENGLAND), who was now arrived at the prime of life, and had been married for some years to the Princess Anne of Denmark, by whom he had two sons, Henry and Charles, and one daughter named Elizabeth. James immediately removed to London, and assumed the government of England, while his native kingdom, though thus united under the same sovereignty, still retained its own peculiar institutions. At the suggestion of the king, who wished to obliterate the distinction of the two countries, the common name of *Great Britain* was now conferred upon them. King James was an oddity in human character. His person was naturally feeble, particularly in the limbs, which were scarcely sufficient to support his weight. He had great capacity for learning, some

acuteness, and a considerable share of wit; but was pedantic, vain, and weak. He believed kings to be the deputies of God, and accountable to God alone for their actions. He was equally disposed with Elizabeth to govern despotically, or according to his own will; but he wanted the vigour and the turn for popularity which enabled his predecessor to become so much the mistress of her subjects.

Notwithstanding the energy of Elizabeth, the popular spirit had gradually been acquiring force in her reign. It was chiefly seen in the sects of the Puritans, a religious party, who wished to make great reforms in the church, both in its government and its worship, and who, from the fervour of their devotions and the strictness of their manners, might be likened to the Presbyterians of Scotland. King James found considerable difficulty at the very first in controlling this party and evading their demands. He was no less troubled, on the other hand, by the Catholics, who, recollecting his mother Mary, conceived that he would be inclined to make matters more easy to them in England. Upon the whole, there were such difficulties in the way, as, to have steered clearly through them, would have required a wiser instead of a weaker ruler than Elizabeth.

GUNPOWDER PLOT.

The disappointment of the Catholics, on finding that the severe laws against them were not to be relaxed, led to a conspiracy on the part of a few gentlemen of that persuasion, of whom the chief was William Catesby, a person of dissolute habits. It was arranged that, on the day of the meeting of Parliament, November 5, 1605, the House of Lords should be blown up by gunpowder, at the moment when the King, Lords, and Commons, were all assembled in it, thus destroying, as they thought, all their chief enemies at one blow, and making way for a new government which should be more favourable to them. Accordingly, thirty-four barrels of powder were deposited in the cellars beneath the house, and a person named Guy Fawkes was prepared to kindle it at the proper time. The plot was discovered, in consequence of the receipt of a letter by Lord Monteagle, warning him not to attend the meeting of Parliament. An investigation took place during the night between the 4th and 5th of November, when the gunpowder was discovered, and Fawkes taken into custody. He confessed his intentions; and the rest of the conspirators fled to the country, where most of them were cut to pieces in endeavouring to defend themselves. Notwithstanding the atrocious character of this plot, the king could never be induced to take advantage of it, as most of his subjects desired, for the purpose of increasing the persecution of the Catholic party: he probably feared that new severities might only give rise to other attempts against his life.

PLANTATIONS IN IRELAND.

The state in which the king found Ireland at his accession, afforded an opportunity for commencing a more generous policy in reference to that country, and introducing regulations favourable to internal improvement. Previously to this reign, the legislative authority of the English government was confined to the small district called the "Pale," while the rest was governed by native sovereigns or chiefs, whose connexion with the King of England was merely that of feudal homage, which did not prevent them from making wars or alliances with each other. Subject to depredations from these powerful barons, the native Irish, from a very early period, petitioned for the benefit of the English laws; but the Irish Parliament, which was composed of the English barons, was never at a loss for the means of preventing this desirable measure from being effected. James was, in reality, the first king who extended the English law over the whole of Ireland, by making judicial appointments suited to the extent of the country. This he was enabled to do, by the recent wars having put the country more completely in his power than it had been in that of any former monarch. He began by extending favour to the Irish chiefs, not e Tyrone. He passed an act of oblivion and in by which all persons who had committed offenc ing to the judges of assize within a certain da claim a full pardon. At the same time, tolera virtually refused to the Catholic persuasion, a discontent therefore still existed. Some of t taina, having conspired against the crown, tainted, and their lands were given to English with a view to improving the population of the by an infusion of civilised persons. But this ment, though well-meant, was managed in a spirit, and gave rise to much injustice. In 1 first Irish Parliament was held in which the any representatives of places beyond the Pale.

THE KING'S CHILDREN.—THE SPANISH MATC

In 1612, the king had the misfortune to lose h son, Henry, a youth of nineteen, who was co as one of the most promising and accomplishe the age. The second son, Charles, then bec heir-apparent, and James was busied for seve in seeking him out a suitable consort. The Mary of Spain was selected, a match which cou popular, considering that the young lady was a and of a family who had long been the enemies land. The prince, attended by the Duke of B ham, made a romantic journey in disguise to to push the match; but a quarrel between the and Spanish ministers led to its being broken to a bloody war between the two nations.

Elizabeth, the only remaining child of the ki married, in 1613, to Frederick, Prince Palatin Rhine, who was afterwards so unfortunate as his dominions, in consequence of his placing hi the head of the Bohemians, in what was consi a rebellion against his superior, the Emperor many. This discrowned pair, by their youngest d Sophia, who married the Duke of Brunswick, ancestors of the family which now reigns in Br

FEATURES OF JAMES I.'S GOVERNMENT.

The reign of James I. was not marked by called great events. This was greatly owing timid character, which induced him to maintai at whatever sacrifice, throughout the greater pa reign. The prime leaders of his governme youthful favourites, who possessed no merit sonal elegance. Experienced statesmen, brave and learned divines, had to bow to these dissolute if they wished to remain, and still more if the to advance, in the royal favour. Even Bac noblest intellect of the age, and who, by the his studies, has done more than almost any otl to promote the progress of knowledge, is found attached himself to the minion Duke of Buck for the purpose of improving his interest at co

In despotic countries, the vices of the cou corrupt all classes; but it was otherwise at tha in Britain. The country gentlemen, and the me in the incorporated towns, had privileges wh court dared not too often violate, and a feeling tude and independence was encouraged amon classes, which the statesmen of the age too muc looked. The House of Commons gave frequen ance to the court, and often compelled James t at the very moment when he was preaching h trines of divine right. In his first Parliament, th into consideration several grievances, such as *ance*, a supposed right in the officers of the seize what provisions they pleased, at any pric no price; another was the right of granting *mon* which had become a source of revenue to the c cheating the country, certain persons having th poly of certain manufactures and articles of d consumption, which they were allowed to fur their own prices. The Commons likewise remon against pluralities in the church, and against a of canons which the king and the church tried

nation without their consent. In 1614, they ed to postpone any supply till their grievances dressed. The king, in his turn, threatened to them if they did not immediately grant a sup- d they allowed him to take his course, which fill his coffers. These, and many other instances resistance, should have given warning to the They were the shadows of coming events, and n to them might have saved the bloodshed and n of the next reign.

ish literature, which first made a decisive ad- n the reign of Elizabeth, continued to be culti- ith great success in the reign of King James. cellence of the language at this time as a medium ature, is strikingly shown in the translation of le now executed. It is also shown in the ad- dramatic writings of Shakspeare, and in the e philosophic works of Bacon. The inductive phy, made known by the last writer—namely, de of reasoning which consists in first ascertain- n, and then inferring conclusions from them— peculiar lustre on this period of our history. reat praise is also due to Napier of Merchiston, land, for the invention of *logarithms*, a mode of ting great numbers, essential to the progress of natical science.

LES I.—HIS CONTENTIONS WITH THE HOUSE OF COMMONS.

James died in March 1625, in the fifty-ninth his age, and was succeeded by his son CHARLES, enty-five years of age. One of the first acts of ng king was to marry the Princess Henrietta daughter of Henry IV. of France, and a Catholic. s an unfortunate step for the house of Stuart, two eldest sons of the king and queen, though d as Protestants, were influenced in some mea- r the religious creed of their mother, so that they ely became Catholics; and this, in the case of ond son, James II., led to the family being ex- from the throne.

r breaking off the proposed match with the Prin- ary of Spain, Britain eagerly threw itself into a ith that country, which was still continued. To the expenses of that contest, and of a still more ssary one into which he was driven with France, g applied to Parliament, but was met there with ly complaints as to his government, and such a pirit of popular liberty, that he deemed it neces- revive a practice followed by other sovereigns, rticularly Elizabeth, of compelling his subjects t him gifts, or, as they were called, *benevolences*, o to furnish ships at their own charge, for car- on the war. Such expedients, barely tolerated the happy reign of Elizabeth, could not be en- in this age, when the people and the Parliament e much more alive to their rights. A general ent spread over the nation. The Commons, see- t if the king could support the state by self-raised he would soon become independent of all control is Parliaments, resolved to take every measure ir power to check his proceedings. They also d him respecting a right which he assumed to on his subjects upon his own warrant, and to them as long as he pleased. Having made an y into the ancient powers of the crown, before owers had been vitiated by the tyrannical Tudors, mbodied the result in what was called a PETITION HT, which they presented to him as an ordinary rather as a second Magna Charta, for replacing ivileges of the people, and particularly their ex- n from arbitrary taxes and imprisonment, upon basis. With great difficulty Charles was pre- upon to give his sanction to this bill (1628); but putes with Parliament soon after ran to such a , that he dissolved it in a fit of indignation, re- never more to call it together. About the same is favourite minister, the Duke of Buckingham, assinated at Portsmouth, and Charles resolved thenceforward to be in a great measure his own minister, and to trust chiefly for the support of his government to the English hierarchy, to whose faith he was a devoted adherent, and who were, in turn, the most loyal of his subjects. His chief counsellor was Laud, Archbishop of Canterbury, a man of narrow and bigoted spirit, and who made it his duty rather to increase than to diminish the ceremonies of the English church, although the tendency of the age was decidedly favourable to their diminution. For some years Charles governed the country entirely as an irresponsible despot, levying taxes by his own orders, and imprisoning such persons as were obnoxious to him, in utter defiance of the Petition of Right. The Puritans, or church reformers, suffered most severely under this system of things. They were dragged in great numbers before an arbitrary court called the Star-Chamber, which professed to take cognisance of offences against the king's prerogative, and against religion; and sometimes men venerable for piety, learning, and worth, were scourged through the streets of London, and had their ears cut off, and their noses slit, for merely differing in opinion, on the most speculative of all subjects, with the king and his clergy. The great body of the people beheld these proceedings with horror, and only some opportunity was wanted for giving expression to the public feeling.

It is to be observed, that none of the taxes imposed by Charles were in themselves burdensome; the country was then in a most prosperous condition, and the taxes far less in proportion to every man's means than they have ever since been. It was only to the principle of their being raised without Parliamentary sanction, which had formerly been so necessary a control on the royal power, that the people were disposed to resist them. It may easily be supposed, that, though there might be a general disposition to resistance, the most of individuals would not like to be the first to come forward for that purpose, as, in such an event, they would have been sure to experience the severest persecution from the court. At length, John Hampden, a gentleman of Buckinghamshire, resolved to undergo any personal inconvenience rather than pay his twenty shillings of ship-money. The case was tried in the Exchequer (1637); and as the judges were then dismissible at the royal pleasure, and of course the humble servants of the king in every thing, Hampden lost his cause. He roused, however, more effectually than ever, the attention of the people to this question, and means were not long wanting to check the king in his unfortunate career.

TROUBLES IN SCOTLAND—THE NATIONAL COVENANT.

An attempt had been made by King James to introduce the Episcopal Church into Scotland, because it was thought dangerous to the English church that a form of worship, resembling that of the Puritans, should be permitted to exist in any part of the king's dominions. The same object was prosecuted with greater zeal by King Charles; and although the people were generally adverse to it, he had succeeded, after a visit which he paid to the country in 1633, in settling thirteen bishops over the church, by whom he hoped to govern the clergy as he did those of England. But when he attempted, in 1637, to introduce a new Book of Common Prayer into the Scotch churches, the spirit of the people could no longer be kept within bounds. On the Liturgy being opened in the principal church at Edinburgh, the congregation rose in a violent tumult, and threw their clasped Bibles, and the very stools they sat on, at the minister's head; and it was not till the whole were expelled by force, that the worship was permitted to proceed. It was found necessary, by the Scottish state-officers, to withdraw the obnoxious Liturgy, till they should consult the king, who, not dreading any mischief, gave orders that it should be used as he had formerly directed, and that the civil force should be employed in protecting the clergymen. It was found quite impossible to obey such an order in the face of an united people, who, by committees as-

child, Mary, who was not above a week old. Henry immediately conceived the idea of marrying his son Edward to this infant queen, by which he calculated that two hostile nations should be united under one sovereignty, and the Protestant Church in England be supported by a similar establishment in Scotland. This project, however, was resisted by the Scots, of whom very few as yet were inclined to the Protestant doctrines. Henry, enraged at their hesitation, sent a fleet and army, in 1544, to inflict vengeance upon them. The Scots endured with great patience the burning of their capital city, and many other devastations, but still refused the match. The government of Scotland was now chiefly in the hands of Cardinal Beaton, a man of bold and decisive intellect, who zealously applied himself to suppress the reforming preachers, and regarded the English match as likely to bring about the destruction of his religion.

EDWARD VI.—QUEEN MARY.

Henry died, January 28, 1547, leaving the throne to his only son, a boy of ten years of age, who was immediately proclaimed king under the title of Edward VI. The Duke of Somerset, maternal uncle to the young king, became supreme ruler under the title of Protector, and continued to maintain the Protestant doctrines. Under this reign, the church of England assumed its present form, and the Book of Common Prayer was composed nearly as it now exists. Somerset being resolved to effect, if possible, the match between Edward VI. and Mary of Scotland, invaded that country in autumn 1547, and was met at Musselburgh by a large army under the governor, the Earl of Arran. Though the Scotch were animated by bitter animosity against the English, against their religion, and against the object of their expedition, they did not fight with their usual resolution, but were defeated, and pursued with great slaughter. Finding them still obstinate in refusing to give up their queen, Somerset laid waste a great part of the country, and then retired. Previous to this period, Cardinal Beaton had been assassinated by private enemies; but the Scotch were encouraged to persevere by the court of France, to which they now sent the young queen for protection.

In the reign of Edward VI. the government was conducted mildly, until the Protector Somerset was degraded from his authority by the rising influence of Dudley, Duke of Northumberland, who caused him soon after to be tried and executed. Northumberland, who was secretly a Roman Catholic, was not so mild or popular a ruler. Yet, throughout the whole reign of Edward VI., which was terminated by his death on the 6th of July 1553, at the early age of sixteen, no religious party was persecuted, except those who denied the fundamental doctrines of the Christian religion. It would have been well for the honour of a church which has produced many great men, and to which the modern world is indebted for the very existence of Christianity, if it had not been tempted after this period to commence a very different course of action. The crown now belonged by birthright to Mary, the eldest daughter of Henry VIII., who was a zealous Catholic. Northumberland, however, assuming the illegitimacy of that princess and her sister Elizabeth, set up as queen the Lady Jane Grey, who was descended from a younger sister of King Henry, and who had been married to a son of the Duke of Northumberland. Lady Jane was the most beautiful, most intelligent, and most amiable of all the females who appear in the history of England. Though only seventeen, she was deeply learned, and yet preserved all the unaffected graces of character proper to her interesting age. Unfortunately, her father-in-law Northumberland was so much disliked, that the Catholics were enabled to displace her from the throne in eight days, and to set up in her stead the Princess Mary. Northumberland, Lady Jane, and her husband, Guildford Lord Dudley, were all beheaded by that same princess, who soon after took steps for restoring Catholic religion, and married Philip II., King of Spain, in order to strengthen [illegible] testant interest. Mary ex[illegible] from her Protestant subject[illegible] suspicion of her sister Elizab[illegible] formed faith, but took no p[illegible] on the point of ordering her [illegible] as she had replaced the Catholic system, and found herself in possession of sufficient power, she began a career of persecution which has rendered her name infamous. Five out of fourteen Protestant bishops, including the revered names of Cranmer, Latimer, Ridley, were committed to the flames as heretics; during the ensuing part of her reign, which was cut by her death, November 17, 1558, nearly three hundred persons suffered in the same manner. These acts did not take place without exciting horror in the minds of Englishmen in general, including even many Catholics; but the royal authority was at all times too great under this line of princes to allow of effectual resistance. Such a persecution, however, naturally fixed in the minds of the British Protestants a hereditary hatred for the name of Catholic, which has in its turn been productive of many retaliatory persecutions also equally to be lamented. In the latter part of her reign she was drawn by her husband into a war with France, of which the only effect was the loss of Calais, the last of the French possessions of the sovereigns of England. The natural sourness of Mary's temper was increased by this disgraceful event, as well as by her want of children, and she died in a state of great unhappiness.

ELIZABETH.—MARY, QUEEN OF SCOTS.—REFORMATION IN SCOTLAND.

A more auspicious scene opened for England in the accession of Elizabeth, a princess of great native vigour of mind, and who had been much improved by adversity, having been kept in prison during the whole reign of her sister. From the peculiar circumstances of Elizabeth's birth, her right of succession was denied by the Catholics at home and abroad. This party considered Mary, Queen of Scots, who was descended as the eldest sister of Henry VIII., and had been brought up in the Catholic faith at the court of France, as the legitimate sovereign. Elizabeth had no support in any quarter, except among her Protestant subjects. The Pope issued a bull, which, directly or indirectly, pronounced her an usurper, and gave permission to his subjects to remove her from the throne. The court of France professed to consider the Queen of Scots, who had recently been married to the Dauphin, as the Queen of England. Under these circumstances, Elizabeth found no chance of safety except in restoring and maintaining the Protestant religion in her own country, and in seeking to support it in all others where the people were favourable to it. The Scottish nation being now engaged in a struggle with their regent, Mary of Guise, in behalf of Protestantism, Elizabeth gladly acceded to a proposal made by the nobles of that country, and sent a party of troops, by whose assistance the reformed religion was established (1560). In bringing about this change, the chief native leaders were James Stewart, a natural son of King James V., and John Knox, who had once been a friar, but was now a Protestant preacher. As a natural consequence of the obligation which the English queen had conferred upon the Scottish reformers, she acquired an influence over the country which was never altogether lost.

About the time when the Scottish Parliament was establishing the reformed religion, Mary of Guise breathed her last, leaving the country to be managed by the reforming nobles. Her daughter, the Queen of Scots, now eighteen years of age, and the most beautiful woman of her time, had in 1559 become the queen consort of France; but, in consequence of the death of her husband, she was next year left without any political interest in that country. She accordingly, in August 1561, returned to Scotland, and assumed the sovereignty of a country which was chiefly under the rule of fierce nobles, and where the people, from the

, and did some injury to the king's cause in
ıtries. After spending about three months in
;h, Charles was suddenly called away in con-
of intelligence which reached him from Ire-

uel policy already mentioned, by which large
of Ireland were depopulated, and then planted
ies of English and Scotch settlers, had been
d during the reign of Charles. In addition to
other local causes of complaint, the state of
ras one which pervaded nearly the whole coun-
was always becoming more and more impor-
hough the reformed faith had been established
y a century, it had made little progress except
ie English settlers. The greater part of the
and also of the lower orders, were still at-
) the ancient creed; and a Catholic hierarchy,
d by the Pope, and supported by the people,
ıs much respect and obedience as when that
was countenanced by the state. The refusal
ıtholics to take the oath of supremacy, which
dged the king to possess a right which their
ght them to belong to the Pope, necessarily
them from all branches of the public service.
ere also penal laws against the profession of
sm, and a severe court of Star-Chamber to
se into execution. Thus situated, the Irish
had two strong motives to mutiny—a confi-
their numbers, and a constant sense of suffer-
r the government.

13, the Earl of Strafford was appointed viceroy
d. His government was vigorous, and those
ns which he thought proper to patronise, flou-
nder it; but his great aim was to make the
olute, and he rather subdued than conciliated
lar spirit. When summoned in 1640 to attend
; in England, he left the Irish government in
ls of Sir William Parsons and Sir John Borlase,
justices. Immediately after his departure,
it which he thought he had quelled began to
ır, being encouraged both by his absence, and
success which the Scottish Covenanters had
eed in a war against religious restraint. A
acy, involving most of the country without the
d including many persons within it, was formed
nder the direction of a gentleman named
Moore, who possessed many qualities calculated
ır him to the people. Some circumstances ex-
he suspicion of the Protestants; and, among
the return of several officers who had been in
vice of the King of Spain, under pretence of
ing for the Spanish army. But the apparent
lity of the country baffled all scrutiny.

23d of October 1641, being a market day, was
s for the capture of Dublin Castle. During the
n day, nothing had occurred to alarm the autho-
In the evening of the 22d, the conspiracy was
tally discovered, and measures were taken to
blin; but a civil war raged next morning in
and speedily spread over the country. The de-
Sir Phelim O'Neill, and the other leaders of the
ction, was simply political. They conceived the
good one for striking a blow against the govern-
s the Scots had done; and their conduct was in
ost characterised by lenity. They could not,
r, allay the hatred with which the Catholics
pon their adversaries; and a spirit of revenge
et among their followers, which was aggravated
l outrage, when they heard that the conspiracy
overed in Dublin. The spirit of retaliation was
, and political wrongs, unfeelingly inflicted, were,
en the case, ferociously avenged. The massacre
numense number of Protestants held forth an
mon of the effects which oppressive laws pro-
the human passions. The government rather
ded than alleviated the evil, by offering the
of all in rebellion to those who should aid in
g them to obedience. This drove the insurgents
eration, and postponed the complete extinction

of the war for several years. It is to be remarked, that, though the Irish were struggling for both national and religious freedom, they gained no sympathy from the patriots of Britain, who, on the contrary, urged the king to suppress the rebellion, being afraid that a religious toleration in Ireland would be inconsistent with the same privilege in their own country. The Scottish Covenanters, themselves so recently emancipated from a restraint upon their consciences, contributed ten thousand troops to assist in restoring that restraint upon the Irish.

THE CIVIL WAR.

It was generally allowed by moderate people, that in the autumn of 1641, at which time the labours of the Parliament had continued one year, the king had granted redress of all the abuses for which the earlier part of his reign, and the British constitution in general, were blameable. Unfortunately, the character of the king for fidelity to his engagements was not sufficiently high to induce the leaders of the House of Commons to depend upon him: they feared that, if they once permitted him to resume his authority, there would be no longer any safety for them; and they deemed it necessary that things should be prevented from falling into their usual current. They therefore prepared a paper called *The Remonstrance*, containing an elaborate view of all the grievances that had ever existed, or could now be supposed to exist; and this they not only presented to the king, but disseminated widely among the people, with whom it served to increase the prevailing disaffection.

From this time it was seen that the sword could alone decide the quarrel between the king and the Parliament. Charles made an unsuccessful attempt (January 4, 1642) to seize six of the most refractory members, for the purpose of striking terror into the rest. This served to widen the breach. In the early part of 1642, the two parties severally employed themselves in preparing for war. Yet, even now, the king granted some additional concessions to his opponents. It was at last, upon a demand of the Parliament for the command of the army—a privilege always before and since resting with the crown—that he finally broke off all amicable intercourse. He retired with his family to York.

The Parliament found its chief support in the mercantile classes of London and of the eastern coast of England, which was then more devoted to trade than the west, and in the Puritan party generally, who were allied intimately with the Presbyterians of Scotland, if not rapidly becoming assimilated with them. Charles, on the other hand, looked for aid to the nobility and gentry, who were able to bring a considerable number of dependants into the field. The Parliamentary party was by the other styled *Roundheads*, in consequence of their wearing short hair; while the friends of the Parliament bestowed upon their opponents the epithet of *Malignants*. The Royalists were also, in the field, termed Cavaliers, from so many of them being horsemen.

On the 25th of August the king erected his standard at Nottingham, and soon found himself at the head of an army of ten thousand men. The Parliament had superior forces, and a better supply of arms; but both parties were very ignorant of the art of war. The king commanded his own army in person, and the Parliamentary forces were put under the charge of the Earl of Essex.

The first battle took place, October 23, at Edgehill, in Warwickshire, where the king had rather the advantage, though at the expense of a great number of men. He gained some further triumphs before the end of the campaign, but still could not muster so large an army as the Parliament. During the winter, the parties opened a negotiation at Oxford; but the demands of the Parliament being still deemed too great by the king, it came to no successful issue.

Early in the ensuing season, the king gained some

and vexatious nature, were enforced with great severity. It may afford some idea of the barbarity of the age, and of the terror in which the Church of Rome was now held, that, during the reign of Elizabeth, one hundred and eighty persons suffered death by the laws affecting Catholic priests and converts.

WAR IN THE NETHERLANDS.

For more than a century after the Reformation, religion was the real or apparent motive of the most remarkable transactions in European history. It is scarcely necessary to point out that this sentiment, though in general the purest by which human beings can be actuated, is, like all the other higher sentiments of our nature, when offended or shocked, capable of rousing the inferior sentiments into great activity. In the sixteenth and seventeenth centuries, European society was comparatively unenlightened and barbarous; we therefore find that variances of opinion respecting religion were then productive of far fiercer feelings than they are in our own more humane age. The Protestant heresy, as it was termed by the Catholics, was also a novelty, the remote effects of which no man could foretell; it was mingled with political questions, and by some princes was supposed to forebode a general revolt against monarchical authority. We are not therefore to wonder that great cruelties were committed, either by the Catholics in seeking to support the Church of Rome, or by the Protestants in endeavouring to ensure themselves against a renewal of severities inflicted by the opposite party. Nor is it necessary, in the present age, that the adherents of either faith should retain any feeling of displeasure against the other, on account of barbarities which took their rise in the ignorance and rudeness of a former period, and of which the enlightened of both parties have long since disapproved.

In the Netherlands, which formed part of the dominions of Philip II. of Spain, the reformed faith had made considerable advances. Philip, like other Catholic princes, entertained the idea that this new creed, besides being condemnable as a heresy and an offence against the Deity, tended to make men independent of their rulers. Finding the people obstinate in their professions, he commenced a war with the Netherlanders, for the purpose of enforcing his authority over their consciences. This war lasted about twenty years; for the Netherlanders, though a nation of no great strength, fought like desperate men, and endured the most dreadful hardships rather than submit. The chief leader in this war of liberty was William, Prince of Orange, one of the purest and most courageous patriots that ever breathed. Elizabeth could not help wishing well to the Netherlanders, though for a long time her dread of Spain, then one of the greatest powers in Europe, prevented her from openly assisting them. At the same time, about two millions of the people of France were Protestants, or, as they were then called, Huguenots, who acted also for the general Protestant cause with as much energy as the great strength of the French government would permit. Elizabeth at length, in 1578, extended an open protection to the Netherlanders, excusing herself to Philip by stating her fear that they would otherwise throw themselves into the arms of France. The northern provinces were thus enabled to assert their independence, and to form the country which has since been called Holland.

DEATH OF MARY, QUEEN OF SCOTS.

The Catholic powers of the continent formed many schemes for annoying or dethroning Elizabeth; and the imprisoned Scottish Queen, or her adherents, were generally concerned in them. The King of Spain, determined at length to make a decisive effort, commenced the preparation of a vast fleet, which he termed the Invincible Armada, and with which he designed to invade the English shores. Elizabeth, her ministers, and people, beheld the preparations with much concern, and *their fears were increased* by the plots which were incessantly forming amongst her Catholic subjects behalf of the Queen of Scots. An act was passed claring that any person, by or *for* whom any plot sho be made against the Queen of England, should be gu of treason. When, soon after, a gentleman nam Babington formed a conspiracy for assassinating Eli beth and placing Mary on the throne, the latter qu became of course liable to the punishment for treas although herself innocent. She was subjected to a f mal trial in her prison of Fotheringay Castle, and fo guilty. Elizabeth hesitated for some time to strike unoffending and unfortunate person, related to her blood, and her equal in rank. But at length fears herself got the better of her sense of justice, and may be added, of her good sense, and she gave sanction to an act which leaves an ineffaceable st upon her memory. On the 7th of February 15 Mary, Queen of Scots, was beheaded in the hall the castle, after a confinement of more than eight years.

James VI. was now, after a turbulent minority, possession of the reins of government in Scotland, with little real power, being a dependant and pensio of Elizabeth, and at the same time much controlled the clergy, who asserted a total independence of temporal authority, and considered themselves as subjects alone of the divine founder of the Christ faith. James made many attempts to assert a con over the church like that enjoyed by the English narch, and also to introduce an Episcopal hierarc but never could attain more than a mere shadow of object. The chief influence he possessed arose fr his being regarded as heir-presumptive to the Eng crown.

SPANISH ARMADA.—REBELLIONS IN IRELAND.

In 1588, the Spanish Armada, consisting of a hund and thirty great vessels, with twenty thousand l forces on board, set sail against England, while thi four thousand more land forces prepared to join fr the Netherlands. Amidst the consternation which p vailed in England, active measures were taken to fend the country; thirty vessels prepared to meet Armada, and another fleet endeavoured to block up Netherlands forces in port. The command was tak by Lord Howard of Effingham. Troops were a mustered on land to repel the invaders. The Engl fleet attacked the Armada in the Channel, and was fou to have a considerable advantage in the lightness manageableness of the vessels. As the Armada sai along, it was infested by the English in the rear, a by a series of desultory attacks, so damaged as to obliged to take refuge on the coast of Zealand. T Duke of Parma now declined to embark the Netherla forces, and it was resolved by the admiral, that th should return to Spain by sailing round the Orkneys, the winds were contrary to their passage directly ba Accordingly, they proceeded northward, and were lowed by the English fleet as far as Flamborough-he where they were terribly shattered by a storm. Sev teen of the ships, having 5000 men on board, were c away on the Western Isles and the coast of Ireland. the whole Armada, fifty-three ships only returned Spain, and these in a wretched condition. The s men, as well as the soldiers who remained, were overcome with hardships and fatigue, and so dispiri by their discomfiture, that they filled all Spain with counts of the desperate valour of the English, and the tempestuous violence of that ocean by which th were surrounded.

Though the Protestant church had meanwhile be established in Ireland, the great bulk of the people c tinued to be Roman Catholics. The native rudeness the people and their chiefs, and the discontent occasion by what was considered as a foreign church establi ment, rendered the country turbulent and difficult govern. Sir John Perrot, the deputy, proposed to i prove the country by public works and English law but it was thought injurious to England to improve t

...of Ireland. A series of rebellions under chiefs ...d O'Neill was the consequence, and the English ...power was maintained with great difficulty, and ...sometimes expenses. The rebellion of Hugh O'Neill, ...of Tyrone, was particularly formidable. The ...h officers were at first unsuccessful, and met ...some serious defeats. In 1600, Tyrone gained so ...a victory, that the whole province of Munster ...out for him. He then invited the Spaniards to ...a descent on Ireland, and join him. The queen ...over her favourite, the Earl of Essex, with 20,000 ...foot; but he did not proceed with vigour, and soon ...found it necessary to return to England to justify ...himself. Next year Tyrone broke the truce he had ...made with Essex, overran the whole country, and ...was sovereign of Ireland. If Spain had at this time ...given him the support he asked, Ireland might have ...been severed from the English crown.

...Elizabeth now wheeled, as her deputy for Ireland, ...Lord Mountjoy, who was in every respect ...better than Essex to conduct such a warfare. As ...a military step, this sagacious officer introduced ...order and discipline among the Irish chiefs. The ...celerity of his movements tended to dispirit the ...rebels. In 1601, six thousand Spaniards landed ...at Kinsale harbour, for the purpose of supporting the ...rebellion. Mountjoy immediately invested the place, and ...compelled them from acting. Tyrone marched from ...the north of Ireland to their relief, and was met and ...driven by a much inferior English force, after ...which Kinsale was surrendered. About the time when ...Elizabeth died (1603), Tyrone submitted, and Ireland ...became more reduced under the authority of the Eng...lish crown.

CONCLUDING OF THE REIGN OF ELIZABETH.

It is remarkable, that while Elizabeth increased in ...power and resources, she became more noted for femi...nine weaknesses. In her early years she had shown a ...passion, and superiority to natural affections, not ...usually observed in women. But in her old age, she ...became both volatile and susceptible to an extraordi...nary degree; so that the hand which she had withheld, ...in her younger days, from the noblest princes of Europe, ...was lavishly to be bestowed, in her old age, upon some ...contemptible court minion. Her favourite in middle life was ...Robert, Earl of Leicester, a profligate and a trifler. In ...her latter days she listened to the addresses of the ...Earl of Essex, a young man of greater courage and ...better principle, but also headstrong and weak. Essex, ...who had acquired popularity by several brilliant mili...tary exploits, began at length to assume an insolent ...superiority over the queen, who was, on one occasion, ...so much provoked by his rudeness as to give him a ...box on the ear. Notwithstanding all his caprices ...and insults, the queen still doatingly forgave him, until ...at length he attempted to raise an insurrection against ...her in the streets of London, when he was seized, con...victed, and after much hesitation, executed (February ...1601).

...Elizabeth, in at last ordering the execution of Essex, ...acted upon her usual principle of sacrificing her ...private to what was necessary for the public cause; but ...the effect, made in the sixty-eighth year of her age, ...had miscalculated the real strength of her nature. ...She was seen from that time to decline gradually in ...health and spirits.

...Against the close of 1601, she fell into a deep hypo...chondria or melancholy. She could scarcely be induced ...to dress herself dressed, and at length became so much ...affected by her sorrow as to refuse sustenance, and ...sat days and nights on the floor, supported by a few ...cushions brought to her by her attendants. On the ...24th of March 1603, she expired, after a reign of nearly ...forty-five years, during which England advanced from ...the condition of a second-rate to that of a first-rate ...power, and the Protestant religion was established on ...a basis from which it could never afterwards be ...overthrown.

The reign of Elizabeth saw the commencement of the naval glory of England. Down to the reign of Henry VII., there was no such thing as a navy belonging to the public, and the military genius of the people was devoted exclusively to enterprises by land. The rise, however, of a commercial spirit in Europe, which in 1492 had caused the discovery of America, and was again acted upon by the scope for adventure which that discovery opened up, had latterly caused great attention to be paid to nautical affairs in England. Englishmen of all ranks supported and entered into enterprises for discovering unknown territories; and under Drake, Cavendish, Raleigh, and Frobisher, various expeditions of less or more magnitude were sent out. The colonies of North America were now commenced. Amongst the exertions of private merchants, our attention is chiefly attracted by the commencement of the northern whale-fishery, the cod-fishery of Newfoundland, and the less laudable slave-trade in Africa. When hostilities with Spain became more open, the English commanders made many successful attacks upon her colonies in the West Indies, and also upon the fleets of merchant vessels which were employed to carry home the gold, and other almost equally valuable products of the New World, to the Spanish harbours. These attacks were now made in a more systematic manner, and with more effect, as a revenge for the affair of the Armada. It may almost be said that the dominion of Britain over the seas was perfected in one reign; a power which has been of such advantage to the country, both in protecting its commerce and keeping it secure from foreign invasion, that its origin would have conferred everlasting lustre on this period of our history, even although it had not been characterised by any other glorious event.

The chief articles exported from England to the Continent were wool, cloth, lead, and tin: formerly these had been sent in vessels belonging to the Hanse Towns —certain ports of the north of Europe, possessing great privileges—but now English vessels were substituted for this trade. Birmingham and Sheffield were already thriving seats of the hardware manufacture, and Manchester was becoming distinguished for making cottons, rugs, and friezes. Stocking-weaving and the making of sailcloth, serge, and baize, took their rise in this reign. The progress of other arts was much favoured by the bloody persecutions in the Netherlands, which drove into England great numbers of weavers, dyers, cloth-dressers, and silk-throwers. Amongst the wealthier classes, the wearing of handsome apparel and of gold ornaments and jewellery, made a great advance. Coaches were introduced, but for a time thought only fit for the use of ladies. Great improvements were made in the building of houses. Theatrical amusements were begun, and attained great vogue, though only in London. The smoking of tobacco was introduced by Sir Walter Raleigh, who became acquainted with the plant in Virginia. At the end of Elizabeth's reign, the population of London was about 160,000, or a tenth of what it now is; and the whole kingdom probably contained about 5,000,000 of inhabitants.

THE STUARTS.—JAMES I.

The successor of Elizabeth, by birthright, was JAMES VI. OF SCOTLAND (styled JAMES I. OF ENGLAND), who was now arrived at the prime of life, and had been married for some years to the Princess Anne of Denmark, by whom he had two sons, Henry and Charles, and one daughter named Elizabeth. James immediately removed to London, and assumed the government of England, while his native kingdom, though thus united under the same sovereignty, still retained its own peculiar institutions. At the suggestion of the king, who wished to obliterate the distinction of the two countries, the common name of *Great Britain* was now conferred upon them. King James was an oddity in human character. His person was naturally feeble, particularly in the limbs, which were scarcely sufficient to support his weight. He had great capacity for learning, some

pose of putting down the Independent party, now predominant in the English Parliament. With some difficulty the Duke of Hamilton and others, who conducted this negotiation, succeeded, by a vote of the Scottish Parliament, in raising an army of 12,000 men, with which they invaded England in the summer of 1648. The more zealous of the clergy and people of Scotland protested against an enterprise, which, from its co-operating with Royalists and Episcopalians, and not perfectly ensuring the ascendancy of the Presbyterian Church, appeared to them as neither deserving of success nor likely to command it. As the Scottish army penetrated the western counties, parties of Presbyterians and Royalists rose in different parts of England, and for some time the ascendancy of the Independents seemed to be in considerable peril. But before the forces of the enemy could be brought together, Cromwell, with 8000 veteran troops, attacked and overthrew Hamilton at Preston, while Fairfax put down the insurgents in Kent and Essex. Hamilton was himself taken prisoner, and very few of his troops ever returned to their own country.

While Cromwell was employed in suppressing this insurrection, and in restoring a friendly government in Scotland, the Presbyterians of the House of Commons, relieved from military intimidation, entered upon a new negotiation with Charles, which was drawing towards what appeared a successful conclusion—though the king secretly designed to deceive them, and to pursue other means for an effectual restoration—when the army returned to London, breathing vengeance against him for this last war, of which they considered him as the author. Finding the Parliament in the act of voting his concessions to be satisfactory, Cromwell sent two regiments, under Colonel Pride, who forcibly excluded from it about two hundred members of the Presbyterian party; a transaction remembered by the epithet of *Pride's Purge*. The remainder, being chiefly Independents, were ready to give a colour of law to whatever further measure might be dictated by the military leaders. Convinced of the utter faithlessness of the king, and that, if he continued to live, he would take the earliest opportunity of revenging himself for what had already been done, Cromwell and his associates resolved to put him to death. A High Court of Justice, as it was called, was appointed by ordinance, consisting of a hundred and thirty-three persons, named indifferently from the Parliament, the army, and such of the citizens as were known to be well affected to the Independent party. This body sat down in Westminster Hall (January 20, 1649), under the presidency of a barrister named Bradshaw, while another named Coke acted as solicitor for the people of England. Charles, who had been removed to St James's Palace, was brought before this court, and accused of having waged and renewed war upon his people, and of having attempted to establish tyranny in place of the limited regal power with which he had been intrusted. He denied the authority of the court, and protested against the whole of the proceedings, but was nevertheless found guilty and condemned to die. On the 30th of January, he was accordingly beheaded in front of his palace of Whitehall. The people were in general horror-struck at this event; but they were too effectually kept in check by the army to have any influence in preventing it.

Charles I. was a man of slender person, of the middle size, and of a grave and somewhat melancholy cast of countenance. He had not a gracious manner, but possessed considerable dignity. He was sincerely attached to the Church of England, for which he might be considered as a martyr, and he was able to reason very acutely in favour of the divine origin of Episcopacy. The general opinion of modern times respecting his political conduct is unfavourable; though few deny that his death was a most disgraceful as well as imprudent act, on the part of those who brought it about. The worst point of his character was his insincerity; he was prone to using equivocations, with a view to deceive his opponents, and therefore no enemy could depend upon him in negotiation. In private life he was a virtuous man, and he is entitled to much credit for the taste which he displayed in the encouragement of the fine arts. He left three sons—Charles, Prince of Wales; James, Duke of York, afterwards James II.; and Henry, Duke of Gloucester, who died in early life. He also left several daughters, one of whom, named Elizabeth, was treated with much harshness by the new government, and died not long after him in prison.

In the reign of Charles I., the chief literary men were Ben Jonson and Philip Massinger, dramatists, and Samuel Daniel, Michael Drayton, and William Drummond, poets. The most eminent philosophical character was Dr William Harvey, who discovered the circulation of the blood. Elegant architecture was now for the first time introduced into private buildings. The king patronised the Dutch artists, Rubens and Vandyke, and collected many fine pictures, which were afterwards sold by his enemies. The excise and the tax upon landed property were introduced by the Parliament, in order to support the war against the king. When the Parliamentary party became triumphant, it suppressed the theatre, which was not again set up till the restoration of monarchy.

THE COMMONWEALTH.—SUBJUGATION OF IRELAND AND SCOTLAND.

Though the execution of the king produced a considerable reaction in favour of royalty, the small remaining part of the House of Commons, which got the ridiculous nickname of the *Rump*, now established a republic, under the title of the Commonwealth, the executive being trusted, under great limitations, to a council of forty-one members, while in reality Cromwell possessed the chief influence. The House of Peers was voted a grievance, and abolished, and the people were declared to be the legitimate source of all power. Soon after the king's death, the Duke of Hamilton, and a few other of his chief adherents, were executed.

During the progress of the civil war, Ireland had been the scene of almost ceaseless contention among the various parties of the King, the English House of Commons, and the Catholics, none of which could effectually suppress the rest. The most remarkable event was a secret agreement which Charles made, in 1646, with the Earl of Glamorgan, to establish the Catholic religion in Ireland, on condition that its partisans should assist him in putting down his enemies in England and Scotland; a transaction which ultimately injured his reputation, without leading to any solid advantage. At the time of his execution, the Royalists were in considerable strength under the Duke of Ormond, while Hugh O'Neill was at the head of a large party of Catholics, who were not indisposed to join the other party, provided they could be assured of the establishment of their religion. While the two parties in union could have easily rescued the country from the English connexion, Cromwell landed (August 1649) with 12,000 horse and foot, and, in a series of victories over the scattered forces of his various opponents, succeeded without any great difficulty in asserting the sway of the Commonwealth. One of his most important actions was the capture of Drogheda, where he put the garrison and a number of Catholic priests to the sword, in order to strike terror into the nation.

The people of Scotland, who had had scarcely any other object in the civil war than the establishment of their favourite form of worship, and were sincere friends to a limited monarchy, heard of the death of the king with the greatest indignation, and immediately proclaimed his eldest son Charles. Early in 1650, the young monarch, who had taken refuge in Holland, sent Montrose with a small force to attempt a Cavalier insurrection in Scotland; but this nobleman being taken and put to death, Charles found it necessary to accede to the views of the Scots respecting the Presbyterian religion, and he was accordingly brought over and put at the head of a considerable army, though under great

restrictions. Cromwell, who had now nearly completed the conquest of Ireland, lost no time in returning to London, and organising an army for the suppression of this new attempt against the Commonwealth.

On the 19th of July he crossed the Tweed, and advanced through a deserted country to Edinburgh, where the Scottish army lay in a fortified camp. Sickness in his army, and the want of provisions, soon after compelled him to retreat; and the Scottish army, following upon his rear, brought him into a straitened position near Dunbar, where he would soon have been under the necessity of surrendering. In the midst of his perplexities (September 3), he beheld the Scots advancing from the neighbouring heights to give him battle, and, in a transport of joy, exclaimed, "The Lord hath delivered them into our hands!" The movement was solely the result of interference on the part of the clergy who followed the Scottish camp: the better sense of General Leslie would have waited for the voluntary surrender of his enemy. In the fight which ensued, the veteran troops of Cromwell soon proved victorious. The Scots fled in a panic, and were cut down in thousands by their pursuers. This gained for Cromwell the possession of the capital and of all the south-east provinces; but the Covenanters still made a strong appearance at Stirling.

Cromwell spent a whole year in the country, vainly endeavouring to bring on another action. During the interval (January 1, 1651), the Scots crowned the young king at Scone, part of the ceremony consisting in his acceptance of the Solemn League and Covenant. In the ensuing summer, Cromwell at length contrived to outflank the position of the Scottish army; but the result was, that Charles led his troops into England without opposition, and made a very threatening advance upon the capital. Ere the Royalists had time to rally around him, Cromwell overtook the king at Worcester, where, after a stoutly contested fight (September 3, 1651), he proved completely victorious. Charles, with great difficulty, escaped abroad, and Scotland, no longer possessed of a military force to defend itself, submitted to the conqueror. All the courts of the Scottish church were suppressed, and the ministers were left no privilege but that of preaching to their flocks. The country was kept in check by a small army under General Monk, and in a short time was declared by proclamation to be united with England. Thus was the Independent party, or rather Cromwell, left without a single armed enemy. All the efforts of the people during twelve years to obtain limitations upon the monarchy, had ended in a military despotism.

THE PROTECTORATE.

After the country and its dependencies had been thoroughly settled under the new government, the republican leaders resolved upon commencing hostilities against Holland, which, during the civil war, had manifested a decided leaning towards the king, and had recently treated the triumphant party with marked disrespect. In the summer of 1652, the Dutch fleet, under its famous commanders, Van Tromp, De Ruyter, and De Witt, had several encounters with the English ships, under Admirals Blake and Ayscue, without any decided success on either side. But, in the ensuing spring, an action was fought between Blake and Van Tromp, in which the latter lost eleven ships. The Dutch then sued for peace, which the Rump Parliament, for various reasons, were little inclined to grant. Their principal motive for prosecuting the war, was a conviction that it tended to restrict the power of Cromwell, to whom they now paid by no means a willing obedience. Cromwell, perceiving their design, proceeded with 300 soldiers to the house (April 1653), and entering with marks of the most violent indignation, loaded the members with reproaches for their robbery and oppression of the public; then, stamping with his foot, he gave signal for the soldiers to enter, and, addressing himself to the members, "For shame!" said he; "get you gone! give place to honester men! I tell you you are no longer a Parliament; the Lord has done with you!" He then commanded "that bauble," meaning the mace, to be taken away, turned out the members, and, locking the door, returned to Whitehall with the key in his pocket.

Being still willing to keep up the appearance of a representative government, Cromwell summoned one hundred and forty-four persons in England, Ireland, and Scotland, to assemble as a parliament. These individuals, chiefly remarkable for fanaticism and ignorance, were denominated the *Barebones Parliament*, from the name of one of the members, a leather-seller, whose assumed name, by a ridiculous usage of the age, was Praise-God Barebones. As the assembly obtained no public respect, Cromwell took an early opportunity of dismissing it. His officers then constituted him PROTECTOR of the Commonwealth of Great Britain and Ireland, with most of the prerogatives of the late king.

The war against Holland was still carried on with great spirit. In the summer of 1653, two naval actions, in which both parties fought with the utmost bravery, terminated in the triumph of the English, and the complete humiliation of the Dutch, who obtained peace on the condition of paying homage to the English flag, expelling the young king from their dominions, and paying a compensation for certain losses to the East India Company. In a war which he subsequently made against Spain, the fleets of the protector performed some exploits of not less importance. The respect which he thus gained for the English name throughout Europe, is one of the brightest points in his singular history. But while generally successful abroad, he experienced unceasing difficulties in the management of affairs at home. Of the various parliaments which he summoned, no one was found so carefully composed of his own creatures as to yield readily to his will: he was obliged to dissolve them all in succession, after a short trial. He also experienced great difficulty in raising money, and sometimes applied for loans in the city without success. His own officers could scarcely be kept in subordination, but were constantly plotting a reduction of his authority. The Royalists, on the other hand, never ceased to conspire for his destruction; one, named Colonel Titus, went so far as to recommend his assassination in a pamphlet entitled "Killing no Murder," after reading which he was never seen again to smile.

The last Parliament called by Cromwell, was in January 1656; when, besides the commons, he summoned the few remaining peers, and endeavoured, by ennobling some of his officers, to make up a kind of Upper House. This assembly proved as intractable as its predecessors, and he contracted such a disgust at the very nature of a representative legislature, as to resolve, like Charles I., never to call another. His health finally sank under the effects of his ill-gotten power, and he died on the 3d September 1658, a day which was thought to be propitious to him, as it was the anniversary of several of his victories. His eldest son Richard, a weak young man, succeeded him as protector, and was at first treated with all imaginable respect; but he could not long maintain a rule which even his father had ultimately failed in asserting. He quietly slunk out of public view, leaving the supreme authority in the hands of the Rump, which had taken the opportunity to re-assemble.

THE RESTORATION.—DUTCH WAR.

This remnant of an old Parliament continued in power till the autumn of 1659, when it gave way to a council of the officers who had been in command under Cromwell. The latter government, in its turn, yielded to the Rump, which sat down once more in December. The people, finding themselves made the sport of a few ambitious adventurers, began to long for some more fixed and respectable kind of government. At this crisis, General Monk, commander of the forces in Scotland, conceived the design of settling the nation. He left Scotland (January 2, 1660), with a considerable army; and though he kept his thoughts scrupulously to himself, all men bent their eyes upon him, as a person destined to realise their hopes. He reached Lon-

don (February 3), and was received with feigned respect by the Rump. Some resistance was attempted by Lambert, one of Cromwell's officers, but in vain. Ere long, Monk was able to procure the restoration of the members who had been excluded from Parliament by Cromwell; who, being a majority, gave an immediate ascendancy to anti-republican views. As soon as this was effected, an act was passed for calling a new and freely elected Parliament; after which, the existing assembly immediately dissolved itself.

The new Parliament proved to be chiefly composed of Cavaliers and Presbyterians, men agreeing in their attachment to monarchy, though differing in many other views. After some cautious procedure, in which the fears inspired by the late military tyranny were conspicuous, they agreed to invite the king from his retirement in Holland, and to restore him to the throne lost by his father. They were so glad to escape from the existing disorders, that they never thought of making any preliminary arrangement with the king as to the extent of his prerogative. On the 29th of May, being his thirtieth birth-day, Charles II. entered London amidst such frantic demonstrations of joy, that he could not help thinking it his own fault, as he said, that he had been so long separated from his people.

One of the first measures of the new monarch was the passing of a bill of indemnity, by which all persons concerned in the late popular movements were pardoned, excepting a few who had been prominently concerned in bringing the king to the block. Harrison, Scrope, and a few other regicides, were tried and executed; and the bodies of Cromwell, Ireton, and Bradshaw, were raised from the grave and exhibited upon gibbets. In Scotland only three persons suffered—the Marquis of Argyle, Johnston of Warriston, and Mr Guthry, a clergyman: it was considered remarkable, that the marquis had placed the crown upon the king's head at Scone in the year 1651. Excepting in these acts, the king showed no desire of revenging the death of his father, or his own exclusion from the throne. The Parliament which called him home was constituted a legal one by his own ratification of an act for that purpose. In the settlement of other matters, it seemed the prevailing wish that all the institutions of the country should be made as nearly what they were before the civil war as possible. Thus the Episcopal Church was established both in England and Scotland, though not without causing about a third of the clergy in both countries to resign their charges. The stern and enthusiastic piety which prevailed during the civil war, was now treated with ridicule, and the most of the people vied with each other in that licentious riot and drunkenness which is condemned by all systems of faith. The nation, in fact, seemed intoxicated with the safety which they supposed themselves to have at length gained, in a restoration to the imperfect freedom they enjoyed before the civil war.

Ireland, which, during the Protectorate, had been managed by Henry, a younger son of Cromwell, acceded to the Restoration with as much readiness as any other part of the British dominions. An act was passed for settling property, by which the Catholics obtained some slight benefits, but which, in its main effects, confirmed the rights of the settlers introduced by Cromwell.

Though Charles had been restored with the approbation of a very large portion of his subjects, his most zealous friends were the Royalists and Episcopalians; hence he almost immediately subsided into the character of a party ruler. It was deemed necessary that he should maintain an armed force for the protection of his person, and to keep down popular disturbances. He therefore caused several horse regiments to be embodied under the name of Life Guards, being chiefly composed of Royalist gentlemen upon whom a perfect dependence could be placed; and he afterwards added two or three foot regiments, the whole amounting to about five thousand men. The king paid these troops chiefly out of the money allowed for his own support, for Parliament did not sanction his keeping u force, and the nation generally beheld it with s This was the commencement of a *standing* England.

Personally indolent, dissolute, and deficient scientiousness, and surrounded almost exclus the ministers of the basest pleasures, Charles qualified to retain the sincere respect of a peop habitual character is grave and virtuous. H vagant expenditure soon cooled the affectio Parliament, and he began to find considera culties in obtaining money. To relieve hims this embarrassment, he accepted £40,000 f French king for Dunkirk, a French port wl been acquired by Cromwell. For the same pur married a Portuguese princess of the Catholic who possessed a dowry of half a million. He a menced (1664) a war against Holland, for ap no better reason than that, in applying the mentary subsidies necessary for keeping up h he might have an opportunity of converting pa money to his own personal use.

This Dutch war was chiefly conducted by a the 3d of June 1665, an English fleet of 114 sa Dutch one which numbered just one ship le Lowestoffe, and after an obstinate fight gaine plete victory, depriving the enemy of eighteen and compelling the rest to take refuge on th coast. The commander on this occasion was t of York, the king's younger brother; a man of application and more steady principles, but w after became unpopular, in consequence of his himself a Catholic.

Some other well-contested actions took plac and the English, upon the whole, confirmed the supremacy. Owing, however, to a failure of plies, the king was obliged to lay up his best v ordinary, and to send only an inferior force to Dutch took advantage of this occurrence to sen up the Thames (June 10, 1667), which, meeti no adequate resistance, threatened to lay the c ruins and destroy its shipping. Fortunately, th admiral did not think it expedient to make this but retired with the ebb of the tide, after havi and burnt nearly twenty vessels, and done mu damage. The king, finding himself rather impo than enriched by the war, soon after concluded

PLAGUE AND FIRE OF LONDON.—PERSECUTION IN S

In the mean time, two extraordinary calami befallen the metropolis. In the summer of 16 don was visited by a plague, which swept o 100,000 people, and did not experience any ab till the approach of cold weather. On this the city presented a wide and heart-rending s misery and desolation. Rows of houses stood te and open to the winds; the chief thoroughfa overgrown with grass. The few individuals w tured abroad, walked in the middle of the stre when they met, declined on opposite sides, to a contact of each other. At one moment were h ravings of delirium, or the wail of sorrow, f infected dwelling; at another, the merry song less laugh from the tavern, where men were se drown in debauchery all sense of their awful s Since 1665, the plague has not again occurred don, or in any other part of the kingdom.

The second calamity was a conflagration, whi menced on the night of Sunday the 2d of Sep 1666, in the eastern and more crowded part of The direction and violence of the wind, the com nature of the houses, and the defective arran of that age for extinguishing fires, combined t the progress of the flames, which raged dur whole of the week, and burnt all that part of which lies between the Tower and the Temple. calamity, 13,200 houses and 89 churches, cov all 430 acres of ground, were destroyed. The one time formed a column a mile in diamet

...ure, and did some injury to the king's cause in ...scotia. After spending about three months in ...burgh, Charles was suddenly called away in con...ence of intelligence which reached him from Ire...

...e cruel policy already mentioned, by which large ...ts of Ireland were depopulated, and them planted ...colonies of English and Scotch settlers, had been ...ued during the reign of Charles. In addition to ...ral other local causes of complaint, the state of ...on was one which pervaded nearly the whole coun...and was always becoming more and more impor...Though the reformed faith had been established ...arly a century, it had made little progress except ...g the English settlers. The greater part of the ...y, and also of the lower orders, were still at...d to the ancient creed; and a Catholic hierarchy, ...ted by the Pope, and supported by the people, ...ed as much respect and obedience as when that ...on was countenanced by the state. The refusal ...e Catholics to take the oath of supremacy, which ...nowledged the king to possess a right which their ...aught them to belong to the Pope, necessarily ...ded them from all branches of the public service. ...e were also penal laws against the profession of ...olicism, and a severe court of Star-Chamber to ...these into execution. Thus situated, the Irish ...ics had two strong motives to mutiny—a confi...e in their numbers, and a constant sense of suffer...under the government.

...1633, the Earl of Strafford was appointed viceroy ...reland. His government was vigorous, and those ...sures which he thought proper to patronise, flou...d under it; but his great aim was to make the ...absolute, and he rather subdued than conciliated ...opular spirit. When summoned in 1640 to attend ...ong in England, he left the Irish government in ...ands of Sir William Parsons and Sir John Borlase, ...o were justices. Immediately after his departure, ...spirit which he thought he had quelled began to ...pear, being encouraged both by his absence, and ...e success which the Scottish Covenanters had ...enced in a war against religious restraint. A ...iracy, involving most of the country without the ..., and including many persons within it, was formed ...y under the direction of a gentleman named ...r Moore, who possessed many qualities calculated ...ndear him to the people. Some circumstances ex...d the suspicion of the Protestants; and, among ...s, the return of several officers who had been in ...service of the King of Spain, under pretence of ...uiting for the Spanish army. But the apparent ...quility of the country baffled all scrutiny.

...e 22d of October 1641, being a market day, was ...d on for the capture of Dublin Castle. During the ...ious day, nothing had occurred to alarm the author...s. In the evening of the 22d, the conspiracy was ...ionally discovered, and measures were taken to ...Dublin; but a civil war raged next morning in ...ter, and speedily spread over the country. The de...of Sir Phelim O'Neill, and the other leaders of the ...rrection, was simply political. They conceived the ...a good one for striking a blow against the govern...t, as the Scots had done; and their conduct was in ...outset characterised by lenity. They could not, ...ever, allay the hatred with which the Catholics ...ed upon their adversaries; and a spirit of revenge ...s out among their followers, which was aggravated ...ost outrage, when they heard that the conspiracy ...discovered in Dublin. The spirit of retaliation was ...ious, and political wrongs, unfeelingly inflicted, were, ...often the case, ferociously avenged. The massacre ...e immense number of Protestants held forth an ...ful lesson of the effects which oppressive laws pro...e on the human passions. The government rather ...rravated than alleviated the evil, by offering the ...ge of all in rebellion to those who should aid in ...ring them to obedience. This drove the insurgents ...desperation, and *postponed the complete extinction* of the war for several years. It is to be remarked, that, though the Irish were struggling for both national and religious freedom, they gained no sympathy from the patriots of Britain, who, on the contrary, urged the king to suppress the rebellion, being afraid that a religious toleration in Ireland would be inconsistent with the same privilege in their own country. The Scottish Covenanters, themselves so recently emancipated from a restraint upon their consciences, contributed ten thousand troops to assist in restoring that restraint upon the Irish.

THE CIVIL WAR.

It was generally allowed by moderate people, that in the autumn of 1641, at which time the labours of the Parliament had continued one year, the king had granted redress of all the abuses for which the earlier part of his reign, and the British constitution in general, were blameable. Unfortunately, the character of the king for fidelity to his engagements was not sufficiently high to induce the leaders of the House of Commons to depend upon him: they feared that, if they once permitted him to resume his authority, there would be no longer any safety for them; and they deemed it necessary that things should be prevented from falling into their usual current. They therefore prepared a paper called *The Remonstrance*, containing an elaborate view of all the grievances that had ever existed, or could now be supposed to exist; and this they not only presented to the king, but disseminated widely among the people, with whom it served to increase the prevailing disaffection.

From this time it was seen that the sword could alone decide the quarrel between the king and the Parliament. Charles made an unsuccessful attempt (January 4, 1642) to seize six of the most refractory members, for the purpose of striking terror into the rest. This served to widen the breach. In the early part of 1642, the two parties severally employed themselves in preparing for war. Yet, even now, the king granted some additional concessions to his opponents. It was at last, upon a demand of the Parliament for the command of the army—a privilege always before and since resting with the crown—that he finally broke off all amicable intercourse. He retired with his family to York.

The Parliament found its chief support in the mercantile classes of London and of the eastern coast of England, which was then more devoted to trade than the west, and in the Puritan party generally, who were allied intimately with the Presbyterians of Scotland, if not rapidly becoming assimilated with them. Charles, on the other hand, looked for aid to the nobility and gentry, who were able to bring a considerable number of dependants into the field. The Parliamentary party was by the other styled *Roundheads*, in consequence of their wearing short hair; while the friends of the Parliament bestowed upon their opponents the epithet of *Malignants*. The Royalists were also, in the field, termed Cavaliers, from so many of them being horsemen.

On the 25th of August the king erected his standard at Nottingham, and soon found himself at the head of an army of ten thousand men. The Parliament had superior forces, and a better supply of arms; but both parties were very ignorant of the art of war. The king commanded his own army in person, and the Parliamentary forces were put under the charge of the Earl of Essex.

The first battle took place, October 23, at Edgehill, in Warwickshire, where the king had rather the advantage, though at the expense of a great number of men. He gained some further triumphs before the end of the campaign, but still could not muster so large an army as the Parliament. During the winter, the parties opened a negotiation at Oxford; but the demands of the Parliament being still deemed too great by the king, it came to no successful issue.

Early in the ensuing season, the king gained some

don (February 3), and was received with feigned respect by the Rump. Some resistance was attempted by Lambert, one of Cromwell's officers, but in vain. Ere long, Monk was able to procure the restoration of the members who had been excluded from Parliament by Cromwell; who, being a majority, gave an immediate ascendancy to anti-republican views. As soon as this was effected, an act was passed for calling a new and freely elected Parliament; after which, the existing assembly immediately dissolved itself.

The new Parliament proved to be chiefly composed of Cavaliers and Presbyterians, men agreeing in their attachment to monarchy, though differing in many other views. After some cautious procedure, in which the fears inspired by the late military tyranny were conspicuous, they agreed to invite the king from his retirement in Holland, and to restore him to the throne lost by his father. They were so glad to escape from the existing disorders, that they never thought of making any preliminary arrangement with the king as to the extent of his prerogative. On the 29th of May, being his thirtieth birth-day, Charles II. entered London amidst such frantic demonstrations of joy, that he could not help thinking it his own fault, as he said, that he had been so long separated from his people.

One of the first measures of the new monarch was the passing of a bill of indemnity, by which all persons concerned in the late popular movements were pardoned, excepting a few who had been prominently concerned in bringing the king to the block. Harrison, Scrope, and a few other regicides, were tried and executed; and the bodies of Cromwell, Ireton, and Bradshaw, were raised from the grave and exhibited upon gibbets. In Scotland only three persons suffered—the Marquis of Argyle, Johnston of Warriston, and Mr Guthry, a clergyman: it was considered remarkable, that the marquis had placed the crown upon the king's head at Scone in the year 1651. Excepting in these acts, the king showed no desire of revenging the death of his father, or his own exclusion from the throne. The Parliament which called him home was constituted a legal one by his own ratification of an act for that purpose. In the settlement of other matters, it seemed the prevailing wish that all the institutions of the country should be made as nearly what they were before the civil war as possible. Thus the Episcopal Church was established both in England and Scotland, though not without causing about a third of the clergy in both countries to resign their charges. The stern and enthusiastic piety which prevailed during the civil war, was now treated with ridicule, and the most of the people vied with each other in that licentious riot and drunkenness which is condemned by all systems of faith. The nation, in fact, seemed intoxicated with the safety which they supposed themselves to have at length gained, in a restoration to the imperfect freedom they enjoyed before the civil war.

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HISTORY OF GREAT BRITAIN AND IRELAND,

FROM THE YEAR 1603 TILL THE PEACE OF 1763.

CONCLUSION OF THE CIVIL WAR.

...English campaign of 1645 ended in the complete ...ilure of the king. Throughout the war, his army had been continually improving in discipline, in ...dred, and in that enthusiasm which animated them ...rgely, while the royalists had become, out of a mere ...pirit of opposition, so extremely licentious, as to be ...ore a terror to their friends than to their enemies. ...e new-modelling of the parliamentary army, which ...k place early in 1645, had also added much to the ...fficiency of the troops, who were now nominally ...mmanded by Sir Thomas Fairfax, but in reality by ...ir Cromwell, who bore the rank of lieutenant-gene...

The consequence was, that, in a pitched battle at ...ry (June 14), the king was so completely beaten, ...t he and his party could no longer keep the field. ...ad no resource but to retire into Oxford, a town ...ongly affected to his cause, and well fortified. ...e endeavoured, from this forlorn position, to renew ...negotiations for a peace; but every attempt of that ...d was frustrated by the Independents, who, though ...inority in the House of Commons, possessed great ...ce through the army, and, as already mentioned, ...e desirous of effecting greater changes in church ...state than those for which the war was originally ...rtaken. Dreading the influence of this body, Charles ...ped privately from Oxford (May 1646) on the ap...ach of the parliamentary forces, and put himself ...er the protection of the Scottish army at Newark. ...e the views of the Scots throughout the war had ...n steadily confined to the security of the Presbyte...n religion, along with the safety of the king's per...nd the establishment of a limited monarchy, they ...ived him with great respect at their camp, and ...ered into negotiations for effecting their grand ...ct. If Charles would have acceded to their views, ...ight have immediately resumed a great part of ...former power; and the agitations of many subse...nt years, as well as his own life, might have been ...ved. But this was forbidden, not only by his strong ...ossession in favour of the Episcopal forms of wor..., but also by his conviction that the Episcopal form ...church government was alone compatible with the ...tence of monarchy. He therefore disagreed with ...Presbyterians on the very point which they consi...ed the most important.

From the time when Charles first threw himself into ...Scottish camp, the English Parliament had made ...ated and strenuous demands for the surrender of ...person into their hands. The Scots, however, ...ugh acting partly as a mercenary army, asserted ...ir right, as an independent nation under the autho...y of the king, to retain and protect him. At length, ...spairing of inducing him to sanction the Presbyterian ...m, and tempted by the *sum of £100,000, which was* ...en to them *as a compensation for their* arrears of pay, they consented to deliver up their monarch, but certainly without any apprehension of his life being in danger, and, indeed, to a party quite different from that by which he afterwards suffered. The Scottish army then retired (January 1647) to their native country, and were dismissed.

The king was now placed in Holdenby Castle, and negotiations were opened for restoring him to power, under certain restrictions. While these were pending, the Parliament deemed it unnecessary to keep up the army, more especially as its spirit was plainly observed to be of a dangerous character. On attempting, however, to dismiss this powerful force, the English Commons found that their late servants were become their masters. The troops began to hold something like a Parliament in their own camp; a party of them, under Cornet Joyce, seized the king's person, and brought him to Hampton Court. Cromwell, who was at the bottom of their machinations, received from them the chief command; and, at his instigation, they retorted upon the Parliament with a demand for the dismissal of the leaders of the Presbyterian party, and a general right of new-modelling the government and settling the nation. The House of Commons, supported by the city of London, made a bold opposition to these demands, but was obliged to yield to a force which it had no means of resisting. From that time military violence exercised an almost uncontrolled mastery over England.

TRIAL AND EXECUTION OF THE KING.

The leaders of the army, being anxious to fortify themselves by all possible means against the Presbyterians, opened a negotiation with the king, whose influence, such as it now was, they proposed to purchase, by allowing Episcopacy to be the state religion, and leaving him in command of the militia. Charles, however, with characteristic insincerity, carried on at the same time a negotiation with the Presbyterians, which, being discovered by the military chiefs, caused them to break off all terms with him. Under dread of their resentment, he made his escape from Hampton Court (November 11, 1647), and, after an unsuccessful attempt to leave the kingdom, was obliged to put himself under the charge of the governor of Carisbrooke Castle, in the Isle of Wight. Here he entered upon a new negotiation with the House of Commons, to whom he made proposals, and from whom he received proposals in return; all of which were, however, rendered vain by a secret treaty which he at the same time carried on with a moderate party of the Scottish Presbyterians.

He finally agreed with the latter party, but under strict secrecy, to give their form of church government a trial of three years, and yield to them in several other points; they in return binding themselves to unite their strength with the English Royalists, for the res-

don (February 3), and was received with feigned respect by the Rump. Some resistance was attempted by Lambert, one of Cromwell's officers, but in vain. Ere long, Monk was able to procure the restoration of the members who had been excluded from Parliament by Cromwell; who, being a majority, gave an immediate ascendancy to anti-republican views. As soon as this was effected, an act was passed for calling a new and freely elected Parliament; after which, the existing assembly immediately dissolved itself.

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...ntland. Cromwell, who had now nearly completed ...quest of Ireland, lost no time in returning to ..., and organising an army for the suppression of ... attempt against the Commonwealth.

... the 15th of July he crossed the Tweed, and ad... through a deserted country to Edinburgh, where ... Scottish army lay in a fortified camp. Sickness (in ...ency, and the want of provisions, soon after com... him to retreat; and the Scottish army, following ... his rear, brought him into a straitened position ... Dunbar, where he would soon have been under ...cessity of surrendering. In the midst of his per... (September 3), he beheld the Scots advancing ... the neighbouring heights to give him battle, and, ... transport of joy, exclaimed, "The Lord hath deli... them into our hands!" The movement was solely ...sult of interference on the part of the clergy who ...ed the Scottish camp: the better sense of General ... would have waited for the voluntary surrender ... enemy. In the fight which ensued, the veteran ... of Cromwell soon proved victorious. The Scots ... in a panic, and were cut down in thousands by ... pursuers. This gained for Cromwell the posses... of the capital and of all the south-east provinces; ... the Covenanters still made a strong appearance at ...ling.

...romwell spent a whole year in the country, vainly ...avouring to bring on another action. During the ...r (January 1, 1651), the Scots crowned the young ... at Scone, part of the ceremony consisting in his ...ation of the Solemn League and Covenant. In ...ceding summer, Cromwell at length contrived to ...ck the position of the Scottish army; but the re... that Charles led his troops into England with... opposition, and made a very threatening advance ... the capital. Ere the Royalists had time to rally ...nd him, Cromwell overtook the king at Worcester, ...re, after a stoutly contested fight (September 3, ...), he proved completely victorious. Charles, with ... difficulty, escaped abroad, and Scotland, no longer ...sessed of a military force to defend itself, submitted ... conqueror. All the courts of the Scottish church ... suppressed, and the ministers were left no privi... but that of preaching to their flocks. The country ...kept in check by a small army under General Monk, ...in a short time was declared by proclamation to ...nited with England. Thus was the Independent ..., or rather Cromwell, left without a single armed ...y. All the efforts of the people during twelve ... to obtain limitations upon the monarchy, had ended ...military despotism.

THE PROTECTORATE.

...fter the country and its dependencies had been ...roughly settled under the new government, the re...can leaders resolved upon commencing hostilities ...st Holland, which, during the civil war, had mani...ed a decided leaning towards the king, and had re...ly treated the triumphant party with marked dis...ect. In the summer of 1652, the Dutch fleet, under ...mous commanders, Van Tromp, De Ruyter, and ...Witt, had several encounters with the English ships, ...er Admirals Blake and Ayscue, without any decided ...ess on either side. But, in the ensuing spring, an ...n was fought between Blake and Van Tromp, in ...ch the latter lost eleven ships. The Dutch then ...for peace, which the Rump Parliament, for various ...ons, were little inclined to grant. Their principal ...ve for prosecuting the war, was a conviction that ...ended to restrict the power of Cromwell, to whom ...now paid by no means a willing obedience. Crom..., perceiving their design, proceeded with 300 soldiers ...e house (April 1653), and entering with marks of ...most violent indignation, loaded the members with ...roaches for their robbery and oppression of the ...ple; then, stamping with his foot, he gave signal for ...soldiers to enter, and, addressing himself to the ...bers, "For shame!" said he; "get you gone! give ...e to honester men! I tell you you are no longer ...a Parliament; the Lord has done with you!" He then ...commanded "that bauble," meaning the mace, to be ...taken away, turned out the members, and, locking the ...door, returned to Whitehall with the key in his pocket.

Being still willing to keep up the appearance of a representative government, Cromwell summoned one hundred and forty-four persons in England, Ireland, and Scotland, to assemble as a parliament. These individuals, chiefly remarkable for fanaticism and ignorance, were denominated the *Barebones Parliament*, from the name of one of the members, a leather-seller, whose assumed name, by a ridiculous usage of the age, was Praise-God Barebones. As the assembly obtained no public respect, Cromwell took an early opportunity of dismissing it. His officers then nominated him Protector of the Commonwealth of Great Britain and Ireland, with most of the prerogatives of the late king.

The war against Holland was still carried on with great spirit. In the summer of 1653, two naval actions, in which both parties fought with the utmost bravery, terminated in the triumph of the English, and the complete humiliation of the Dutch, who obtained peace on the condition of paying homage to the English flag, expelling the young king from their dominions, and paying a compensation for certain losses to the East India Company. In a war which he subsequently made against Spain, the fleets of the protector performed some exploits of not less importance. The respect which he thus gained for the English name throughout Europe, is one of the brightest points in his singular history. But while generally successful abroad, he experienced unceasing difficulties in the management of affairs at home. Of the various parliaments which he summoned, no one was found so carefully composed of his own creatures as to yield readily to his will: he was obliged to dissolve them all in succession, after a short trial. He also experienced great difficulty in raising money, and sometimes applied for loans in the city without success. His own officers could scarcely be kept in subordination, but were constantly plotting a reduction of his authority. The Royalists, on the other hand, never ceased to conspire for his destruction: one, named Colonel Titus, went so far as to recommend his assassination in a pamphlet entitled "Killing no Murder," after reading which he was never seen again to smile.

The last Parliament called by Cromwell, was in January 1656; when, besides the commons, he summoned the few remaining peers, and endeavoured, by ennobling some of his officers, to make up a kind of Upper House. This assembly proved as intractable as its predecessors, and he contracted such a disgust at the very nature of a representative legislature, as to resolve, like Charles I., never to call another. His health finally sank under the effects of his ill-gotten power, and he died on the 3d September 1658, a day which was thought to be propitious to him, as it was the anniversary of several of his victories. His eldest son Richard, a weak young man, succeeded him as protector, and was at first treated with all imaginable respect; but he could not long maintain a rule which even his father had ultimately failed in asserting. He quietly slunk out of public view, leaving the supreme authority in the hands of the Rump, which had taken the opportunity to re-assemble.

THE RESTORATION.—DUTCH WAR.

This remnant of an old Parliament continued in power till the autumn of 1659, when it gave way to a council of the officers who had been in command under Cromwell. The latter government, in its turn, yielded to the Rump, which sat down once more in December. The people, finding themselves made the sport of a few ambitious adventurers, began to long for some more fixed and respectable kind of government. At this crisis, General Monk, commander of the forces in Scotland, conceived the design of settling the nation. He left Scotland (January 2, 1660), with a considerable army; and though he kept his thoughts scrupulously to himself, all men bent their eyes upon him, as a person destined to realise their hopes. He reached Lon-

don (February 3), and was received with feigned respect by the Rump. Some resistance was attempted by Lambert, one of Cromwell's officers, but in vain. Ere long, Monk was able to procure the restoration of the members who had been excluded from Parliament by Cromwell; who, being a majority, gave an immediate ascendancy to anti-republican views. As soon as this was effected, an act was passed for calling a new and freely elected Parliament; after which, the existing assembly immediately dissolved itself.

The new Parliament proved to be chiefly composed of Cavaliers and Presbyterians, men agreeing in their attachment to monarchy, though differing in many other views. After some cautious procedure, in which the fears inspired by the late military tyranny were conspicuous, they agreed to invite the king from his retirement in Holland, and to restore him to the throne lost by his father. They were so glad to escape from the existing disorders, that they never thought of making any preliminary arrangement with the king as to the extent of his prerogative. On the 29th of May, being his thirtieth birth-day, Charles II. entered London amidst such frantic demonstrations of joy, that he could not help thinking it his own fault, as he said, that he had been so long separated from his people.

One of the first measures of the new monarch was the passing of a bill of indemnity, by which all persons concerned in the late popular movements were pardoned, excepting a few who had been prominently concerned in bringing the king to the block. Harrison, Scrope, and a few other regicides, were tried and executed; and the bodies of Cromwell, Ireton, and Bradshaw, were raised from the grave and exhibited upon gibbets. In Scotland only three persons suffered—the Marquis of Argyle, Johnston of Warriston, and Mr Guthry, a clergyman: it was considered remarkable, that the marquis had placed the crown upon the king's head at Scone in the year 1651. Excepting in these acts, the king showed no desire of revenging the death of his father, or his own exclusion from the throne. The Parliament which called him home was constituted a legal one by his own ratification of an act for that purpose. In the settlement of other matters, it seemed the prevailing wish that all the institutions of the country should be made as nearly what they were before the civil war as possible. Thus the Episcopal Church was established both in England and Scotland, though not without causing about a third of the clergy in both countries to resign their charges. The stern and enthusiastic piety which prevailed during the civil war, was now treated with ridicule, and the most of the people vied with each other in that licentious riot and drunkenness which is condemned by all systems of faith. The nation, in fact, seemed intoxicated with the safety which they supposed themselves to have at length gained, in a restoration to the imperfect freedom they enjoyed before the civil war.

Ireland, which, during the Protectorate, had been managed by Henry, a younger son of Cromwell, acceded to the Restoration with as much readiness as any other part of the British dominions. An act was passed for settling property, by which the Catholics obtained some slight benefits, but which, in its main effects, confirmed the rights of the settlers introduced by Cromwell.

Though Charles had been restored with the approbation of a very large portion of his subjects, his most zealous friends were the Royalists and Episcopalians; hence he almost immediately subsided into the character of a party ruler. It was deemed necessary that he should maintain an armed force for the protection of his person, and to keep down popular disturbances. He therefore caused several horse regiments to be embodied under the name of Life Guards, being chiefly composed of Royalist gentlemen upon whom a perfect dependence could be placed; and he afterwards added two or three foot regiments, the whole amounting to about five thousand men. The king paid these troops chiefly out of the money allowed for his own support, for Parliament did not sanction his keeping up force, and the nation generally beheld it with s This was the commencement of a *standing* England.

Personally indolent, dissolute, and deficient scientiousness, and surrounded almost exclus the ministers of the basest pleasures, Charles qualified to retain the sincere respect of a peop habitual character is grave and virtuous. H vagant expenditure soon cooled the affection Parliament, and he began to find considera culties in obtaining money. To relieve hims this embarrassment, he accepted £40,000 f French king for Dunkirk, a French port wl been acquired by Cromwell. For the same pur married a Portuguese princess of the Catholic who possessed a dowry of half a million. He a menced (1664) a war against Holland, for ap no better reason than that, in applying the mentary subsidies necessary for keeping up he he might have an opportunity of converting pa money to his own personal use.

This Dutch war was chiefly conducted by s the 3d of June 1665, an English fleet of 114 sa Dutch one which numbered just one ship le Lowestoffe, and after an obstinate fight gaine plete victory, depriving the enemy of eighteen and compelling the rest to take refuge on th coast. The commander on this occasion was t of York, the king's younger brother; a man of application and more steady principles, but w after became unpopular, in consequence of his himself a Catholic.

Some other well-contested actions took plac and the English, upon the whole, confirmed the supremacy. Owing, however, to a failure of t plies, the king was obliged to lay up his best v ordinary, and to send only an inferior force to s Dutch took advantage of this occurrence to sen up the Thames (June 10, 1667), which, meeti no adequate resistance, threatened to lay the c ruins and destroy its shipping. Fortunately, th admiral did not think it expedient to make this but retired with the ebb of the tide, after havi and burnt nearly twenty vessels, and done mu damage. The king, finding himself rather impo than enriched by the war, soon after concluded

PLAGUE AND FIRE OF LONDON.—PERSECUTION IN S

In the mean time, two extraordinary calami befailen the metropolis. In the summer of 16 don was visited by a plague, which swept o 100,000 people, and did not experience any ab till the approach of cold weather. On this the city presented a wide and heart-rending misery and desolation. Rows of houses stood te and open to the winds; the chief thoroughfa overgrown with grass. The few individuals w tured abroad, walked in the middle of the stre when they met, declined on opposite sides, to a contact of each other. At one moment were h ravings of delirium, or the wail of sorrow, f infected dwelling; at another, the merry song less laugh from the tavern, where men were se drown in debauchery all sense of their awful si Since 1665, the plague has not again occurred don, or in any other part of the kingdom.

The second calamity was a conflagration, whi menced on the night of Sunday the 2d of Sep 1666, in the eastern and more crowded part of The direction and violence of the wind, the com nature of the houses, and the defective arrang of that age for extinguishing fires, combined t the progress of the flames, which raged dur whole of the week, and burnt all that part of which lies between the Tower and the Temple. calamity, 13,200 houses and 89 churches, cov all 430 acres of ground, were destroyed. The one time formed a column a mile in diamet

...ed to mingle with the clouds. It rendered the ... as clear as day for ten miles around the city, and ... to have produced an effect upon the sky which ... observed on the borders of Scotland. It had one ... effect, in causing the streets to be burned much ... than before, by which the city was rendered ... healthy. By the populace, this fire was believed ... been the work of the Catholics, and a tall pillar, ... an inscription to that effect, was reared in the ... as a monument of the calamity. This pillar with ... inscription still exists; but the fire is now believed ... been occasioned purely by accident.

...while, in Scotland great dissatisfaction had been ... by the imposition of Episcopacy upon the ..., and advantage had been taken of various acts ... on the part of the clergy and people, to ... with measures of considerable severity. ... fines were imposed upon such as failed to attend ... of the established clergy, on the sup... that, when not at church, they were hearing the ... clergymen in some private place. A small ... army was kept up to enforce the fines, and, ... were paid, free quarters were exacted for the ... Tired of suffering, a few of the peasantry of ... rose in rebellion (November 1666), and, ad... through the disaffected districts of Ayrshire ... Lanarkshire, gradually assumed a threatening ap... An unfortunate movement towards Edin..., where they expected accessions, thinned their ..., and they were overpowered by General Dal... at the Pentland Hills. Thirty-four of the prisoners ... executed as rebels, chiefly at the instigation of ..., Archbishop of St Andrews, who, with the other ..., was peculiarly zealous in behalf of the govern... Besides these sufferers, fifty persons, including ... clergymen, forfeited lands and goods.

...me attempts were now made, at the desire of the ..., to endear the ejected clergy in connect them... with the church; but very few took advantage ... clemency which they believed would have been ex... also to Catholics, and which involved their ...owledgment of the king's supremacy in spiritual ... About the year 1670, some divines began to ... conventicles in secluded parts of the country, to ... the country people used to come with arms. At ... places, a far warmer kind of devotion was felt, ... could be experienced under tamer circumstances; ... as may be supposed, such meetings were not cal... to diffuse or foster a sentiment of loyalty. Sen... of this, the government obtained an act, imposing ... severe fines on all who should preach or listen at ... conventicles; but without producing any effect. The ... alties with which they were threatened seemed only ... make the people more attached to their peculiar ... of worship and church government.

THE TRIPLE ALLIANCE.—THE FRENCH ALLIANCE.

...he kingdom of France was at this period, under ... XIV., rising into a degree of power and wealth ... it had never before known. Louis had some ... through his wife upon the Netherlands (since ... Belgium), which were then part of the Spanish ...minions. He accordingly endeavoured to possess ...self of that country by force of arms. A jealousy ... increasing power, and of the Catholic religion, ...ssed by his people, induced the English to wish ... his aggressions should be restrained. To gratify ..., Charles entered into an alliance with Holland ... Sweden, for the purpose of checking the progress ... French king. In this object he was completely ...ssful, and consequently he became very popular. ... Parliament, however, having disappointed him of ...plies, he soon after entirely changed his policy, and, ... the assistance of five abandoned ministers, Clif..., Ashley, Buckingham, Arlington, and Lauderdale, ... were called the CABAL, from the initials of their ... forming that word, resolved to render himself, ...sible, independent of Parliament; in other words, ...olute prince. In consideration of a large bribe from Louis, he agreed to join France in a war against Holland, with the view of putting an end to that example of a Protestant republic.

War was accordingly declared in May 1672, and the naval force of England was employed in meeting that of the Dutch by sea; while Louis led a powerful army across the Rhine, and in a very short time had nearly reduced the whole of the Seven Provinces. In this emergency, the Dutch could only save themselves from absolute ruin by laying a great part of their country under water. The English, who had not entered heartily into this war, soon began to be alarmed for the fate of Holland, which was almost their only support against the dread of Popery; and though forbidden under severe penalties to censure the government measures, they soon contrived to exhibit so much dissatisfaction, as to render a change of policy unavoidable.

The king found it necessary to assemble his Parliament (February 1673), and it was no sooner met, than it passed some acts highly unfavourable to his designs. Among these was the famous Test Act, so called because it enacted the imposition of a religious oath upon all persons about to enter the public service, the design being to exclude the Catholics from office. Above all things, the House of Commons declared that it would grant no more supplies for the Dutch war. The king resolved to prorogue the assembly; but before he could do so, they voted the alliance with France, and several of his ministers, to be *grievances*. Charles, who, in wishing to be absolute, had been inspired by no other motive than a desire of ease, now saw that there was a better chance of his favourite indulgence in giving way to his subjects than in any other course; and he at once abandoned all his former measures, and concluded a separate peace with Holland. This country was now beginning, under the conduct of the Prince of Orange, to make a good defence against the French, which it was the better enabled to do by obtaining the friendship of Germany and Spain. In the year 1678, after a war, which, without any decisive victories, will ever reflect lustre upon Holland, a peace was concluded. The Prince of Orange, in the previous year, had married the Princess Mary, eldest daughter of the Duke of York, and educated in the reformed faith—an alliance which pleased the English, from its strengthening the Protestant interest, and which was destined, some years after, to bring about important results.

During the whole of this reign the corruptness of the court was very great; but it was, in some measure, the protection of the public. Charles spent vast sums in debauchery, and thus made himself more dependent on his Commons than he would otherwise have been. Many of the Commons were exceedingly corrupt, and all kinds of evil methods were adopted to render them more so. Bribes were distributed among them, and they were frequently *closeted*; that is, brought into the presence of the king individually, and personally solicited for votes. Still a large party maintained its purity and independence, and long kept a majority against the court.

THE POPISH PLOT.

For a century past, one of the grand moving-springs of the public conduct had been a strong detestation and dread of the adherents of the Romish church. This sentiment did not arise from any fear of the numbers or political strength of the Catholics, for they were but a small minority of the nation, but from a belief, generally entertained, that the Catholics scrupled at no treachery or cruelty which might seem favourable to the re-establishment of their religion. The popular notions, newly inflamed by the avowed Catholicism of the Duke of York, heir-presumptive to the crown, and by the late intrigues of the king with France, were encouraged by a party who wished to impose restrictions upon the royal prerogative, and to exclude the duke from the succession. In 1678, an account of a plot, supposed to have been formed by the Papists, for burning London, massacring the Protestants, and de-

[illegible] and the Protestant religion, was [illegible] the Duke a Romish [illegible], a weak, irresolute person, and [illegible] one of the most [illegible] that ever appeared in history. The [illegible] [illegible] [illegible]

lived, in the event of its not proving more tractable, the advantage of the popular feeling, dissolve the ...ably, and never call another. It met on the 21st March 1681, and the Whigs soon showed that the ...sion Bill was still uppermost in their minds. The ...permitted case of his ministers to propose, that, as ...ands, the Princess of Orange should reign as regent, ...the new king be for ever excluded five hundred ...from his dominions. To this concession, which ...seems much greater than could have reasonably ...expected, they would not listen for a moment. ...ples then dissolved the Parliament as utterly in...able, and, as he expected, he was generally ap...ded for the act. Popular feeling had now taken a ...ble favour of royalty; and the representative branch ...the legislature, long regarded with veneration by the ...ublic, was never more permitted to go down without ...struggle. The king henceforth ruled entirely without ...ent, being secretly supplied with money by France, ...consideration of his non-interference with the con...sts of that country.

THE RYE-HOUSE PLOT.—DEATH OF CHARLES II.

...t of slavishness now befell the English nation, as ...rtable in its extent as the late fury against the ...t and the Catholics. Supported by this mood of ...people, Charles caused all the corporations in the ...dom to give up their old charters, and accept of ...ones, by which he became all-powerful over the ...ions of magistrates, and, consequently, over those ...parliamentary representatives, should ever another ...ion of that kind take place. The leaders of the ...majority in Parliament, comprising the Duke of ...mouth, Lord Russell (son of the Earl of Bedford), ...Earl of Essex, Lord Howard, the famous Algernon ...ey, and John Hampden, grandson of the patriot ...first resisted Charles I., long refused to absolute ...ule, formed a project for raising an insurrection in ...don, to be supported by one in the west of England, ...breaker under the Earl of Argyle in Scotland, and ...object of which should be confined to a melioration ...e government. They were betrayed by an asso...named Rumsey, and implicated, by a train of ...cumstantial circumstances, in a plot for assassinating ...King (styled the Rye-house plot), of which they ...perfectly innocent. By the execution of Russell ...Sydney, and some other severities, the triumph of ...king might be considered as completed. After ...ng been an absolute sovereign for nearly four years, ...died (February 6, 1685), professing himself at the ...to be a Catholic, and was succeeded by the Duke ...rk.

...harles II. was a prince of a gay and cheerful dis...ion, and so noted a saver of witty things, and so ...ined to humorous amusements, that he was called ...merry monarch." His wit, shrewdness, and good ...mour, form the best side of his character. On the ...r side, we find a deficiency of almost every active ...and of all steady principle. He never allowed ...dity of his station, or any claim upon his justice ...clemency, to interfere with his own interests, or even ...sturb him in his indolent and vicious pleasures. ...Leaving his wife, who never had any children, he ...t most of his time with his various mistresses, who ...only lived at court, and were even received by the ...en. Of these ladies, the most remarkable were ...ise Querouaile, whom he created Duchess of Ports...uth, and Barbara Villiers, whom he made Duchess ...Cleveland. Six sons of the king by his mistresses ...e made dukes, and five of these were the progeni...s of families in the English nobility.

...During the reign of Charles II., the nation advanced ...siderably in the arts of navigation and commerce; ...d the manufactures of brass, glass, silk, hats, and ...ce, were established. The post-office, set up during ...e Commonwealth as a means of raising money, *was* ...ormed in this reign, *and the penny post was now* ...*set up in London by a private person. Roads were* ...*being improved, and stage-coach travelling was com*-

...menced, though not carried to any great extent. During this reign, tea, coffee, and chocolate, which have had a great effect in improving and softening manners, were first introduced. In 1660, the Royal Society was established in London, for the cultivation of natural science, mathematics, and all useful knowledge. The science of astronomy was greatly advanced by the investigations of Flamstead and Halley. But the greatest contribution to science was made by Sir Isaac Newton, whose Principles of Natural Philosophy were published in 1623; in this work, the true theory of planetary motions was first explained, in reference to the principle of gravitation. Amongst the literary men of the period, the first place is to be assigned to John Milton, author of the Paradise Lost and other poems: Samuel Butler shines as a humorous and satirical poet, and Edmund Waller as a lyrist. Amongst divines, the highest names connected with the church are those of Jeremy Taylor and Isaac Barrow; while the highest among the nonconformists are those of Richard Baxter and John Bunyan. The theatre, which had been suppressed during the Commonwealth, was revived in this reign; but the drama exhibited less talent and more licentiousness than it did in the previous reigns. Female characters, which had formerly been acted by men, were now for the first time performed by females.

JAMES II.—EXPEDITION OF MONMOUTH.

Charles II., with all his faults, had conducted himself towards his subjects with so much personal cordiality, and had so well calculated his ground before making any aggressions upon popular liberty, that he might probably have pursued his arbitrary career for many years longer. But his brother James, though much more respectable as a man, more industrious, and more sincere, wanted entirely the easiness of carriage, pleasantry, and penetration, which were the grounds of the late king's popularity and success. He was, moreover, an avowed Catholic, and inspired by an ardent desire of reforming the nation back into that faith. He began his reign by declaring before the privy council his intention to govern solely by the laws, and to maintain the existing church; and such was the confidence in his sincerity, that he soon became very popular. Addresses poured in upon him from all quarters, professing the most abject devotion to his person. The parliament called by him voted an ample revenue, and expressed the greatest servility towards him in all things. The doctrines of passive obedience, and the divine right of the sovereign, were now openly preached. The University of Oxford promulgated an elaborate declaration of passive obedience to rulers, which they declared to be "clear, absolute, and without any exception of any state or order of men."

The remains of the Whig party still existed, though in exile, and there were some districts of the country where they were supposed to have considerable influence. The Duke of Monmouth and the Earl of Argyle (the latter of whom had been condemned to death in Scotland, for adding a qualification to the test-oath, but had escaped) met in Holland, and projected two separate invasions, for the purpose of expelling King James. The former soon after landed in the west of England with a small retinue, and quickly found himself at the head of 5000 persons, though irregularly armed. At several places he caused himself to be proclaimed king, which offended many of his principal adherents, as inconsistent with his previous engagements. Upon the whole, his conduct was not energetic enough for the management of such an enterprise. Being attacked by the king's troops near Bridgewater, his infantry fought with some spirit, but, being deserted by the cavalry, and by the duke himself, were obliged to give way. Monmouth was taken and executed. Many of his followers were hanged without form of trial by the royal troops, and others were afterwards put to death, with hardly any more formality, by the celebrated Chief-Justice Jefferies, whom the king sent down with a commission to try the offenders. The

butchery of several hundred men of low condition, who were unable of themselves to do any harm to the government, was looked upon as a most unjustifiable piece of cruelty, even if it had been legally done; and the principal blame was popularly ascribed to the king.

The Earl of Argyle sailed in May with a corresponding expedition, and landed in that part of the West Highlands which owned his authority. Unfortunately for him, the government had received warning, and seized all the gentlemen of his clan, upon whom he had chiefly depended. He nevertheless raised between two and three thousand men, and made a timid advance to Glasgow, in the expectation of being joined by the persecuted Presbyterians of that part of the country. Being surrounded on the march by various parties of troops, he dispersed his army, and sought to escape in disguise, but was taken, brought to Edinburgh, and executed. Thus terminated the last effort made by the Whig party to ameliorate the despotic sway of the Stuarts.

ARBITRARY MEASURES OF THE KING.

Encouraged by his successes, James conceived that he might safely begin the process of changing the established religion of the country. On the plea of his supremacy over the church, he took the liberty of dispensing with the test-oath in favour of some Catholic officers, and thus broke an act which was looked upon, under existing circumstances, as the chief safeguard of the Protestant faith. His Parliament, servile as it was in temporal matters, took the alarm at this spiritual danger, and gave the king so effectual a resistance that he resorted to a dissolution. Transactions exactly similar took place in Scotland.

Heedless of these symptoms, he proclaimed an universal toleration, for the purpose of relieving the Catholics, and thus assumed the unconstitutional right of dispensing with acts of Parliament. The nation was thrown by this measure, and by the numerous promotions of Roman Catholics, into a state of great alarm; even the clergy, who had been so eager to preach an implicit obedience to the royal will, began to see that it might be productive of much danger. When James commanded that his proclamation of toleration should be read in every pulpit in the country, only two hundred of the clergy obeyed. Six of the bishops joined in a respectful petition against the order; but the king declared that document to be a seditious libel, and threw the petitioners into the Tower. In June 1688, they were tried in Westminster Hall, and, to the infinite joy of the nation, acquitted.

Blinded by religious zeal, the king proceeded on his fatal course. In defiance of the law, he held open intercourse with the Pope, for the restoration of Britain to the bosom of the Romish church. He called Catholic lords to the privy council, and even placed some in the cabinet. Chapels, by his instigation, were everywhere built, and monks and priests went openly about his palace. A court of high commission—a cruel instrument of power under Charles I.—was erected, and before this every clerical person who gave any offence to the king was summoned. He also excited great indignation, by violently thrusting a Catholic upon Magdalen College, at Oxford, as its head, and expelling the members for their resistance to his will. Public feeling was wound to the highest pitch of excitement by the queen being delivered (June 10, 1688) of a son, who might be expected to perpetuate the Catholic religion in the country, and whom many suspected to be a supposititious child, brought forward solely for that purpose.

The disaffection produced by these circumstances extended to every class of the king's subjects, except the small body of Roman Catholics, many of whom could not help regarding the royal measures as imprudent. The Tories were enraged at the ruin threatened to the Church of England, which they regarded as the grand support of conservative principles in the empire. The Whigs, who had already made many strenuous efforts to exclude or expel the king, were now more in against him than ever. The clergy, a popular a fluential body, were indignant at the injuries in upon their church; and even the dissenters, comprehended in the general toleration, saw too through its motive, and were too well convinced illegality of its manner, and of the danger of its as affecting the Protestant faith, to be exempte the general sentiment. But for the birth of the of Wales, the people at large might have been co to wait for the relief which was to be expected the death of the king, from the succession of the P of Orange, who was a Protestant, and united chief military defender of that interest in Europ this hope was now shut out, and it was neces resolve upon some decisive measures for the s the national religion.

THE REVOLUTION.

In this crisis, some of the principal nobility and with a few clergymen, united in a secret addres Prince of Orange, calling upon him to come ov an armed force, and aid them in protecting the and liberties. This prince, who feared that F would soon be joined to France against the few ing Protestant powers, and also that his pros the succession in that country, as nephew and law of the king,* were endangered, listened re this call, and immediately collected a large fl army, comprising many individuals, natives Scotland and England, who had fled from the government of the Stuart princes. The prep for the expedition were conducted with great and James was partly blinded to them, by a that their only object was to frighten him into connexion with France, in order to make him to his subjects. When he was at length assure minister in Holland that he might immediately a formidable invasion, he grew pale, and drop letter from his hands. He immediately ordere and large army to be collected, and, that he m gain the affections of his subjects, he called a ment, and undid many of his late measures. Th justly suspected his concessions to be insince were confirmed in their belief, when, on a ru the Prince of Orange being put back by a st recalled the writs for assembling Parliament.

On the 19th of October, the Prince of Ora sail with 50 ships of war, 25 frigates, 25 fire-sh 500 transports, containing 15,000 land-troops. occasioned some damage and delay; but he s to sea again, and proceeded with a fair wind al British Channel, exhibiting from his own vesse on which were inscribed the words, "The Pro Religion and the Liberties of England," w apposite motto of his family, "*Je Maintiendrai*" will maintain. As he passed between Dover and his armament was visible to crowds of spect both shores, whose feelings were much excited by its appearance and its well-known purpos English fleet being detained at Harwich by t wind which was so favourable to the prince, he (November 5) without opposition at Torbay, and diately proceeded to circulate a manifesto, decla grievances of the kingdom, and promising, v support of the people, to redress them.

At the first, there seemed some reason to f the prince would not meet with adequate supp his march to Exeter, and for eight days after there, he was not joined by any person of conse The nation, however, soon became alive to th sity of giving him encouragement. The gentry o and Somersetshires formed an association in hi The Earls of Bedford and Abingdon, with other of distinction, repaired to his quarters at Exete

* The mother of the prince was Mary Stuart, eldest of Charles I., and sister of James II. Failing the infa of Wales, his own wife, and the Princess Anne, the two of the king, he was the heir of the British crown.

...ment took arms in Cheshire; the city of York was ... by the Earl of Danby; the Earl of Bath, governor of Plymouth, declared for the prince; and the Earl of Devonshire made a like declaration in Derby. Every county reversed some new instance of that general contempt into which the nation had entered against the ...ions of the king. Thus the most dangerous symptom and that which rendered his affairs desperate, was ...pirit which he found to prevail in his army. On ...dvancing at its head to Salisbury, he learned that ...al of the principal officers had gone over to the Prince ...range. Lord Churchill (afterwards famous as Duke ...rlborough), Lord Treiawney, and his son-in-law, ..., Prince of Denmark, successively followed this ...ple. Even his daughter, the Princess Anne, de...d him. In great perplexity, he summoned a council ...rs, by whose advice writs were issued for a new ...ment, and commissioners dispatched to treat with ...ince. A kind of infatuation now took possession ... king; and, having sent the queen and infant prince ...ly to France, he quitted the capital at midnight, ...ut consulted, for the purpose of following them, ...g orders to recall the writs and disband the army. ...he proclaim, the peace of the country was immediately endangered; but it only served to hasten the ...ete triumph of the Prince of Orange, who had ...ved to Windsor. The supreme authority ...d on the point of falling into his hands, when, to ...eat disappointment, the king, having been discovered at Faversham, in Kent, was brought back to ..., not without some marks of popular sympathy ...affection. There was no alternative but to request ...unfortunate monarch to retire to a country house, ...e he might await the settlement of affairs. James, ...g his palaces taken possession of by Dutch guards, ...dreading assassination, took the opportunity to ...e his attempt to leave the kingdom. He proceeded ...ard a vessel in the Medway, and, after some ob...ions, arrived safely in France, where Louis readily ...ted him an asylum.

...same day that the king left Whitehall for the ..., his nephew and son-in-law arrived at St ...'s. The public bodies immediately waited on him, ...press their zeal for his cause; and such of the ...bers of the late Parliaments as happened to be in ..., having met by his invitation, requested him to ...write for a convention, in order to settle the na...

He was in the same manner, and for the same ..., requested to call a convention in Scotland. ...English convention met on the 22d of January ..., and during its debates the prince maintained a ...unanimous silence and neutrality. The Tory party, ...h it had joined in calling him over, displayed ...scruples respecting the alteration of the succes... and seemed at first inclined to settle the crown on ...ncess, while William should have only the office ...ent; but when this was mentioned to the prince, ...ously replied, that in that event, he should immedi...ly return to Holland. A bill was then passed, ...ring that "James II., having endeavoured to sub... the constitution, by breaking the *original contract* ...een the king and people, and having withdrawn ...self from the kingdom, has *abdicated* the govern...t; and that the throne is thereby become *vacant*." ...he bill was added what was called a *Declaration of ...*, namely, an enumeration of the various laws by ...h the royal prerogative and the popular liberties ...formerly been settled, but which had been violated ...evaded by the Stuart sovereigns. WILLIAM and ..., having expressed their willingness to ratify this ...aration, were proclaimed king and queen jointly—...administration to rest in William; and the con...tion was then converted into a Parliament.

...Scotland, where the Presbyterians had resumed ...ascendancy, the convention came to a less timid ...ion. It declared that James, by the abuse of his ..., had *forfeited* all right to the crown—a decision ...affecting his posterity; and William and Mary ...e immediately after proclaimed. By a bill passed in the English Parliament, the succession was settled upon the survivor of the existing royal pair; next upon the Princess Anne and her children; and, finally, upon the children of William by any other consort—an arrangement in which no hereditary principle was overlooked, except that which would have given a preference to James and his infant son.

By the Revolution, as this great event was styled, it might be considered as finally decided that the monarchy was not a divine institution, superior to human challenge, as the late kings had represented it, but one dependent on the people, and established and maintained for their benefit. Many advantages, of smaller importance, though of more direct and practical utility, resulted from the change. The Episcopal Church, which in Scotland had occasioned incessant discontent and disturbance for the last twenty-eight years, was abolished in that kingdom, and the favourite Presbyterian forms were established, to the almost universal satisfaction of the nation. By an act passed in the English Parliament, the dissenters from the Church in England were freed from the severities to which they had been exposed during the last two reigns. The royal revenue, which had formerly been fixed at the beginning of each reign, was now settled annually by the House of Commons, so that the king was more under the control of his people than formerly. The independence and impartiality of the judges were now ensured by their being appointed for life, or during good behaviour, instead of being removable at the royal pleasure as heretofore. William is said to have wished to grant some farther concessions in favour of the Dissenters, but was prevented by the powerful opposition which the Tory party presented in Parliament.

RESISTANCE IN SCOTLAND AND IRELAND.

The new government was at first extremely popular in Scotland; but one portion of the people was much opposed to it. This consisted of the Highland clans—a primitive race, unable to appreciate the rights which had been gained, prepossessed in favour of direct hereditary succession, and of such warlike habits, that though a minority, they were able to give no small trouble to the peaceful Lowlanders. When the Scottish convention was about to settle the crown on William and Mary, Viscount Dundee, formerly Graham of Claverhouse, and celebrated for his severity upon the recusant Presbyterians, raised an insurrection in the Highlands in favour of King James, while the Duke of Gordon, a Catholic, still held out Edinburgh Castle in the same interest. It was with no small difficulty that the new government could obtain the means of reducing these opponents. The castle, after a protracted siege, was given up in June (1689). General Mackay was dispatched by William, with a few troops, to join with such forces as he could obtain in Scotland, and endeavour to suppress the insurrection in the Highlands. He encountered Dundee at Killiecrankie (July 27), and, though his troops were greatly superior in number and discipline, experienced a complete defeat. Dundee, however, fell by a musket-shot in the moment of victory, and his army was unable to follow up its advantage. In a short time the Highland clans were induced to yield a nominal obedience to William and Mary.

In Ireland, a much more formidable resistance was offered to the revolution settlement. Since the accession of James, the Romish faith might be described as virtually predominant in that kingdom. The laws against Catholics had been suspended by the royal authority, all public offices were filled by them, and, though the established clergy were not deprived of their benefices, very little tithe was paid to them. The vice-regal office was held by the Earl of Tyrconnel, a violent and ambitious young man, disposed to second the king in all his imprudent measures, and resolved, in the event of their failing, to throw the country into the hands of the French. The people at large, being chiefly Catholics, were warmly attached to the late sovereign, whose cause they regarded as their own.

Early in the spring of 1689, James proceeded from France to Ireland, where he was soon at the head of a large though ill-disciplined army. He immediately ratified an act of the Irish Parliament for annulling that settlement of the Protestants upon the lands of Catholics, which had taken place in the time of Cromwell, and another for attainting two thousand persons of the Protestant faith. The Protestants, finding themselves thus dispossessed of what they considered their property, and exposed to the vengeance of a majority over whom they had long ruled, fled to Londonderry, Inniskillen, and other fortified towns, where they made a desperate resistance, in the hope of being speedily succoured by King William. That sovereign now led over a large army to Ireland, and (July 1) attacked the native forces under his father-in-law at the fords of the Boyne, near the village of Dunore, where he gained a complete victory.

James was needlessly dispirited by this disaster, and lost no time in sailing again to France. In reality, the Irish made a better appearance, and fought more vigorously, after the battle of the Boyne, than before it. The Duke of Berwick, a natural son of James, and the Earl of Tyrconnel, still kept the field with a large body of cavalry, and the infantry were in the mean time effectually protected in the town of Limerick. William invested this town, and, in one assault upon it, lost two thousand men, which so disheartened him, that he went back to England, leaving his officers to prosecute the war. The Irish army afterwards fought a regular battle at Aghrim, when, partly owing to the loss of their brave leader, St Ruth, they were totally routed. The remains of the Catholic forces took refuge in Limerick, where they finally submitted in terms of a treaty which seemed to secure the Catholic population in all desirable rights and privileges. It was agreed that they should receive a general pardon; that their estates should be restored, their attainders annulled, and their outlawries reversed; that Roman Catholics should enjoy the same toleration as in the days of Charles II., and not be disturbed in the exercise of their religion; that they should be restored to all the privileges of subjects, on simply swearing allegiance to the king and queen; and that such as chose to follow the fortunes of James (of whom there was a vast number), should be conveyed to the Continent at the expense of government.

King William, whose disposition was tolerant, promised to procure a ratification of this treaty by Parliament, but he was thwarted in his design. An act was passed in England, making it necessary for all members of the Irish Parliament, and all persons filling civil, military, and ecclesiastical offices in Ireland, to take an oath abjuring the most important doctrines of the Catholic faith. After this had taken effect, in the filling of the Irish Parliament with Protestants, an act was passed by that assembly, professing to be a confirmation of the treaty of Limerick, but in reality putting the Catholics into a worse condition than before.

REIGN OF WILLIAM III.

Though all military opposition was thus overcome, William soon found difficulties of another kind in the management of the state. The Tories, though glad to save the established church by calling in his interference, had submitted with no good grace to the necessity of making him king; and no sooner was the danger past, than their usual principles of hereditary right were in a great measure revived. From the name of the exiled monarch, they now began to be known by the appellation of *Jacobites*. James's hopes of a restoration were thus for a long time kept alive, and the peace of William's mind was so much embittered, as to make his sovereignty appear a dear purchase. Perhaps the only circumstance which reconciled the king to his situation, was the great additional force he could now bring against the ambitious designs of Louis XIV. Almost from his accession he entered heartily into the combination of European powers for checking this warlike prince, and conducted military operations against him every summer in person. The necessi supplies for that purpose rendered him u he had been willing, to resist any liberal me posed to him in Parliament, and hence hi the famous Triennial Act in 1694, by whic pointed that a new Parliament should be third year. In this year died Queen Ma offspring; after which William reigned s narch.

While William was treated in Englan than justice, he lost all his popularity in consequence of two separate acts, chara great cruelty and injustice. An order had commanding all the Highland chiefs, under and sword, to give in their submission bef day of the year 1691. One individual—M Glencoe—was prevented by accident fron the day, and letters of fire and sword, si king, were accordingly issued against him. tary party intrusted with this duty, instea advancing to the task, came among the cla partook of their hospitality and amusement indicated their intentions till the morning of February (1692), when they attacked th ing people in their beds, and mercilessly came in their way. Thirty-eight persons, i chief and his wife, were slaughtered, and died in the snow, as they vainly tried to more atrocious action does not stain mod though the barbarous circumstances of th were more owing to feelings of private rev part of some of the officials of government than to the intentions of William.

Two or three years after, the Scottish p to turn their attention to commerce, by whi great advantages gained by neighbouring they planned a colony on the Isthmus of D: they thought might become an emporium fo and Indian produce. They subscribed ar selves, for this purpose, no less than £100,0 was added more than as much again by n London and Holland. The jealousy of ot companies, and the remonstrances of the Sp apprehended some interference with their duced the king to withdraw his countenan scheme, after he had sanctioned it by act of but, nevertheless (1698), a gallant expediti out by the Scots, who founded a town called burgh, about midway between Portobello genia, and under the ninth degree of latitud the winter months, every thing seemed like the expectations of the colonists; but sunn disease, and, on their provisions running low, to their infinite consternation, that they c supplies, the Spanish and British colonists bouring countries being forbidden to deal In May and September 1699, ere intelligen circumstances could reach home, two other had sailed, containing 1300 men, who were their arrival in the same disasters. After swept off many hundreds, the remainder w by the Spaniards, who pretended a right to t and to these haughty enemies, who were co in their proceedings by the British sovere fortunate colony was obliged to surrender. ever regained their native country, and the vested in the undertaking were irrecov The massacre of Glencoe, and the Darien excited the most bitter feelings against the breasts of the Scottish nation, among whos bite party thenceforward began to assume a appearance.

The peace of Ryswick, concluded in 169 the French power was confined to due limits William to spend the concluding years of l peace. In 1700, in consideration that he an in-law Anne had no children, the famous S cession was passed, by which the crown, f two individuals, was settled upon the next

Sophia, Duchess of Hanover, daughter of Elizabeth, the eldest daughter of James I.

...ent this time, the causes of a new war took their ...n certain disputes respecting the succession to the ... of Spain. The title to that sovereignty, in the ... of the death of the existing king without heirs, ...claimed by the king of France, the Elector of ..., and the Emperor of Germany, through various ... lines of descent. A treaty, to which England ... party, was entered into for preventing the whole ... falling into the hands of the reigning family of ..., whose possession would then have been so ... to be inconsistent, it was thought, with the ... and safety of the neighbouring states. At ... death of the king of Spain, a will was produced, in ... it appeared that he had appointed the Duke of ..., second son of the Dauphin, to be his successor. ...French king lost no time in enforcing the preten... of his grandson, who, under the title of Philip V., ... the founder of the Bourbon dynasty in Spain. ...ost the same time (September 1701), James, the ... English king, died at St Germains, leaving his ...ssions to his son, James, Prince of Wales, now a ... thirteen years of age, and henceforth generally ...ed to in Britain by the epithet of the *Pretender*. ...ost regard to the treaty of Ryswick, Louis XIV. ...nised this young person as JAMES III., King of ... Britain, by which he added greatly to the hostile ... which his other proceedings had already created ... British king and people. A war was accordingly ...mmenced, when King William died (March 2, ... in consequence of a fall from his horse.

...iam was a prince of commanding ability, partic... in military affairs. His ruling sentiment was ... to reduce the power of the King of France, which ... ever able in so small degree to effect. His person ...ain and feeble, and his ordinary demeanour cold, ... and somewhat repulsive. It was only in battle ... ever became animated or easy. He was a ... ...ious man, of sober domestic habits, and sincerely ...ed to toleration in religion. But for the ques... act of expelling his uncle and father-in-law ... the throne, and his concern in the affairs of Glen... and Darien, no serious blot of any kind would have ...d upon his name, either as a public or private per...

...e reign of King William is remarkable for the ...egal support of a standing army, and for the com...ement of the national debt. It is also distinguished ...e first establishment of regular banks for the de... of money, and the issue of a paper currency. For... the business of banking, as far as necessary, was ...ucted by goldsmiths, or through the medium of ...public Exchequer, by which plans the public was ...sufficiently ensured against loss. In 1695, the first ...e establishment for the purpose, *the Bank of Eng...*, was established by one William Paterson, a schem... Scotsman; and next year the Bank of Scotland was ...n first by one Holland, an English merchant; the ...tal in the one case being only L.1,200,000, and in ...other the tenth part of that sum.

...the reign of King William flourished Sir William ...ple, an eminent political and philosophical writer, ...om is usually assigned the honour of first com... the English language in the fluent and measured ...ner which afterwards became general. The most ...found philosophical writer of the age was John ..., author of an Essay on the Human Understand..., an Essay on Toleration, and other works. Bishop ...son stands high as a writer of elegant sermons. ...e greatest name in polite literature is that of John ...den, remarkable for his energetic style of poetry, ... his translations of Virgil and Juvenal.

QUEEN ANNE.—MARLBOROUGH'S CAMPAIGNS.

William was succeeded by his sister-in-law ANNE, ...nd daughter of the late James II.; a *princess now ...y-eight years of age, and chiefly remarkable for ... zealous attachment to the Church of England.* The movement against the King of France had not been confined to Great Britain; it was a combination of that power with the Emperor of Germany and the States of Holland. Queen Anne found it necessary to maintain her place in the Grand Alliance, as it was formed; and the Duke of Marlborough was sent over to the Continent with a large army to prosecute the war in conjunction with the allies. Now commenced that career of military glory which has rendered the reign of Anne and the name of Marlborough so famous. In Germany and Flanders, under this commander, the British army gained some signal successes, particularly those of Blenheim and Ramillies: in Spain, a smaller army, under the chivalrously brave Earl of Peterborough, performed other services of an important kind. The war, however, was one in which Britain had no real interest—for it has been seen that Spain has continued under a branch of the House of Bourbon, without greatly endangering other states.

A party, consisting chiefly of Tories, endeavoured, in 1706, to put an end to the war; and France was so much reduced in strength, as to concede all the objects for which the contest had been commenced. But the people were so strongly inspired with a desire of humiliating France, which in commerce and religion they considered their natural enemy, that some ambitious statesmen of a contrary line of politics were enabled to mar the design of a treaty. Among these was the Duke of Marlborough, who, being permitted to profit, not only by his pay but by perquisites attached to his command, wished the war to be protracted, merely that he might make his enormous wealth a little greater. It was in consequence of these unnecessary interferences with continental politics, urged chiefly by the people, and by a popular class of statesmen, that the first large sums of the national debt were contracted.

UNION OF ENGLAND AND SCOTLAND.

Since their religious enthusiasm had been laid at rest by the Revolution Settlement, the Scottish people had been chiefly animated by a desire of participating in the commerce of England. The treatment of their expedition to Darien had now inspired them with a bitter feeling against their southern neighbours, and they resolved to show their power of counter-annoyance, by holding up threats of dissenting from England in the matter of the succession. In 1703, their Parliament passed the famous *Act of Security*, by which it was ordained that the successor of her Majesty in Scotland should not be the same with the individual adopted by the English Parliament, unless there should be a free communication of trade between the countries, and the affairs of Scotland thoroughly secured from English influence. Another act was at the same time passed, for putting the nation under arms. The English ministers then saw that an incorporating union would be necessary to prevent the Pretender from gaining the Scottish crown, and to protect England from the attacks of a hostile nation. For this purpose, they exerted themselves so effectually in the Scottish Parliament, as to obtain an act, enabling the queen to nominate commissioners for the arrangement of an union. The men appointed, thirty on each side, were, with hardly an exception, the friends of the Court and of the Revolution Settlement; and the treaty accordingly was framed without difficulty.

In October 1706, this document was submitted to the Scottish Parliament, and was found to contain the following principal points:—that the two nations were to be indissolubly united under one government and legislature, each, however, retaining its own civil and criminal law; the crown to be in the House of Hanover; the Scottish Presbyterian church to be guaranteed; forty-five members to be sent by the Scottish counties and burghs to the House of Commons, and sixteen elective peers to be sent to the Upper House by the nobles; the taxes to be equalised, but, in consideration of the elevation of the Scotch imposts to the level of the

English (for the latter people already owed sixteen millions), an equivalent was to be given to Scotland, amounting to nearly four hundred thousand pounds, which was to aid in renewing the coin, and other objects. These terms were regarded in Scotland as miserably inadequate; and the very idea of the loss of an independent legislature and a place among governments, raised their utmost indignation. Nevertheless, by dint of bribery, the union was carried through Parliament; and, from the 1st of May 1707, the two countries formed one state, under the title of the Kingdom of Great Britain.

HIGH CHURCH ENTHUSIASM.

Since the Revolution, the Whigs might be considered as the predominant party in England. They almost exclusively constituted the ministries, and a large majority in the Parliaments, of King William. The sentiments of the queen were of a different cast from theirs. She disrespected the Revolution Settlement, by which she reigned; and was more zealously attached than they to the Church of England, in all its doctrines, practices, and privileges. As the remembrance of the errors of King James faded from the public recollection, or were put out of view by more recent grievances, the people began to partake more generally of the Tory spirit. The Parliament which they returned at the beginning of the new reign, contained a much larger admixture of that party than the former one. The Tory feeling of both people and Parliament chiefly took the direction of a strong attachment to the Church of England, which they wished to maintain in uncompromising supremacy, and in all its privileges; while the Whig party, in general, were favourable to the toleration called for by the dissenters. The distinction of High Church and Low Church now became conspicuous, the one phrase implying the ecclesiastical views of the Tories, while the other referred to those of the Whigs. In this Parliament, the House of Commons passed a bill against *occasional conformity*, by which penalties were imposed on all persons in office who should attend dissenting places of worship; but it was thrown out by the Upper House, in which the bishops created by William voted against it.

An impeachment of the ministry raised the High Church enthusiasm to an extraordinary height. A divine of inferior note, named Henry Sacheverell, had preached a violent sermon, in which he seemed to call upon the people to take up arms in defence of their endangered church. The ministers were so weak as to give this man a solemn trial, during which the people rose so tumultuously in his favour, that, though declared guilty, it was found impossible to inflict upon him more than a nominal punishment. After the trial, he received more marks of public reverence and honour than were ever bestowed on the greatest national benefactor. In proportion to the popularity of Dr Sacheverell, was the loss of public favour experienced by the Whig party. About the same time, through some court intrigues, they forfeited all remaining favour with their royal mistress. Mrs Masham, a lady of the court, and favourite of the queen, had contrived to introduce into the cabinet two Tory statesmen, Mr Robert Harley, afterwards Earl of Oxford, and Mr Henry St John, afterwards Lord Bolingbroke. These gentlemen having attempted to set up a party for themselves, their superior, Lord Godolphin, dismissed them, to the great displeasure of Queen Anne, who now resolved to get quit of the Whig party at the first opportunity. In August 1710, Harley and St John came into power, at the head of a decidedly Tory ministry, which, though of brief duration, was destined to make an important figure in the national history. The queen at the same time called a new Parliament, which proved to be almost wholly composed of the Tory party.

PEACE OF UTRECHT.—DEATH OF QUEEN ANNE.

The ascendancy of the new cabinet immediately applied *measures*, though very secretly, to the business of bringing about a peace. When their plans w tured, the consent of the House of Commons w gained; but the Lords having shown some rel it was found necessary to create twelve new p order to overpower the sense of that part of tl lature. After a tedious course of negotiation, and Holland concluded a peace at Utrecht (171 ing the Emperor of Germany still at war. arrangement, Philip V. was permitted to retai and the Indies, but no other part of the dominio his ambitious grandfather had endeavoured t for him; and it was provided that he and his ants should never inherit the kingdom of Fra any future King of France accede to the crown Britain obtained nothing tangible by all her ex except the possession of Gibraltar and Minor the privilege of being exclusively employed t slaves to the Spanish American colonies. It ha been considered a stain upon the nation, that i have concluded a separate peace under such cla circumstances, as the interests of the other bel parties were thereby greatly injured. For th fication of their High Church supporters, the m obtained an act for preventing dissenters from schools, and another for establishing church pa in Scotland, the former of which was repeale following reign.

It is believed that Queen Anne and her Tor ters were in secret willing to promote the res of the main line of the Stuart family, and Ha St John are now known to have intrigued for th pose. But before any plan could be formed, th took suddenly ill and died (August 1, 1714), w ministers had no alternative but to proceed ac to the Act of Settlement. The Electress Sophi recently dead, her son, the elector, was pro under the title of George I.

The reign of Queen Anne is not more distin by the wonderful series of victories gained by borough, than by the brilliant list of literary m now flourished, and who have caused this to b the Augustan age of English literature, as reso that of the Roman Emperor Augustus. Alexand stands unrivalled in polished verse on moral s Jonathan Swift is a miscellaneous writer of s vigour and an extraordinary kind of humour. Addison wrote on familiar life and on moral a tical subjects with a degree of elegance before un Sir Richard Steele was a lively writer of miscel essays. The last author, with assistance from and others, set on foot the Tatler, Spectat Guardian, the earliest examples of small pe papers in England, and which continue to thes be regarded as standard works. Gibber, Co Vanburgh, and Farquhar, were distinguished of comedy; and Prior, Philips, and Rowe, were p poets. In graver literature, this age is not le nent. Dr Berkeley shines as a metaphysicia Sherlock, Atterbury, and Clark as divines; and B as a critic of the Roman classics.

ACCESSION OF THE HOUSE OF HANOVER.—GEORGE I. 1715 to

The new sovereign lost no time in coming Britain, and fixing himself in that heritage wh family has ever since retained. He was fifty-fou of age, of a good though not brilliant understa and very firm in his principles. Knowing well t Whigs were his only true friends, he at once them into the administration. It was the cus great period for every party, on getting into po try to annihilate their opponents. Not only wa whole Tory party insulted by the king, but a com of the House of Commons was appointed to p articles of impeachment against Oxford, Bolin the Duke of Ormond, and the Earl of Str Bolingbroke, perceiving his life to be in danger, the Continent; and his attainder was in conse moved and carried by his rival Walpole. Ormo

a similar fate. Oxford, after a protracted trial, ly saved in consequence of a difference between rds and Commons.

ing the first year of King George, the Tories kept y unwavering popular disturbances in favour of Church principles; but the Whigs, gaining a ty in the new House of Commons, were able to ass a little by the celebrated enactment called ial Act, which permits military force to be used in ing a crowd, after a certain space of time has allowed. Disappointed in their hopes of office and , and stung by the treatment of their leaders, the resolved to attempt bringing in the Pretender rs of arms. With an eager hopefulness, which ing time was characteristic of the party, they be- that all England and Scotland were ready to up arms for the Pretender, when in reality there at a limited portion of the people so inclined, and section unwilling to move, if they saw the least lined to these circumstances, and without design ment, they commenced the unfortunate civil war 5.

Earl of Mar, who had been a secretary of state late administration, raised his standard in Brae- September 6), without any commission from the reign, and was soon joined by Highland clans to mount of 10,000 men, who rendered him master Scotland north of the Forth. There, however, ently permitted himself to be cooped up by the of Argyle, who, with a far less numerous force, ssed himself at Stirling. Mar expected to be ted by an invasion of England by the Duke of ord, and a rising of the people of that country. he duke completely failed in his design, and no ssible place, except in Northumberland. There ester, one of the members of Parliament for the y, and the Earl of Derwentwater, with some other ons, appeared in arms, but unsupported by any derable portion of the people. Mar detached a ut 1000 foot, under Mackintosh of Borlum, to the Northumbrian insurgents, who complained they had no infantry. The junction was managed great address; and at the same time some noble- and gentlemen of the south of Scotland attached selves to the southern army. The government ll provided with troops; but it nevertheless sent a force against Mr Foster, as obliged him to re- with his men into the town of Preston, in Lanca- , where, after an obstinate defence, the whole (November 13) surrendered themselves prisoners e king's mercy. On the same day, the Earl of met the Duke of Argyle at Sheriffmuir, near Dun- , where a battle was fought, in which, after the ur of the battles in the civil war, the right wing ch army was successful, but neither altogether rious. The duke withdrew in the face of his y to Stirling, and the Earl retired to Perth, re- d to wait for the news of an invasion from France, r the arrival of the Pretender, whom he had in- to Scotland.

e did not for some time become aware how little n he had to expect support from France. Louis , upon whom the hopes of the party greatly rested, ed in September, leaving the government to the nt Orleans, who had strong personal reasons for ng to cultivate the good will of the British mo- h, and of course declined to assist in the present rpose. The Pretender, nevertheless, sailed for land, and, on the 22d of December, arrived incog- at Peterhead, bringing nothing but his own person d his adherents. Mar, who had already attempted gotiate a submission to the government, brought forward to Perth, where he was amused for some with preparations for his coronation. But before ad been many days there, the Duke of Argyle d himself in a condition to advance against the in- nt forces; and, on the 30th of January 1716, this rtunate prince commenced a retreat to the north, with his dispirited army. On the 4th of February, he and the Earl of Mar provided for their own safety by going on board a vessel at Montrose, and setting sail for France: the army dispersed itself into the Highlands. For this unhappy appearance in arms, the Earl of Derwentwater, Viscount Kenmure, and about twenty inferior persons, were executed; forty Scottish families of the first rank lost their estates, and many excellent members of society became exiles for the remainder of their lives.

CHARACTER OF THE GOVERNMENT UNDER GEORGE I.

The suppression of this insurrection, and the ruin of so many Tory leaders, tended to increase the power of the Whig party, and the stability of the Hanoverian dynasty. The government, nevertheless, acted under considerable difficulties, as they were opposed by the majority of the clergy and country gentry, as well as by the whole of the mob feeling, except in the large commercial towns. To avoid the hazard of too often appealing to the people, they carried, in 1716, a bill for repealing King William's Triennial Act, and protracting the present and all future Parliaments to a duration of seven years. The chief popular support of the government was in the Dissenters, and the middle classes of the community.

From the peace of Utrecht, Britain remained free from foreign war for nearly thirty years, excepting that, in 1718, the ministry was called on to interfere for the repression of an attempt on the part of Spain to regain her Italian territories. A Scotsman, named Law, who had become comptroller-general of France, and aroused that country with financial schemes, which at first promised to enrich, but finally almost ruined the country, was the means, in 1720, of inspiriting the British people with a similar visionary project, called the South Sea Scheme. This might be described as a joint-stock company, professedly trading in the South Seas, but chiefly engaged in a scheme for managing the national debt. It seemed for a time to prosper, and many realised large fortunes by selling their shares at a premium to others; but in a short time its unsoundness was discovered, the price of shares fell, and thousands were utterly ruined. With great difficulty, and by an extremely complicated adjustment, the House of Commons equalised as nearly as possible the state of gain and loss among the innocent parties, and credit was restored. Sir Robert Walpole, who was chiefly concerned in effecting this arrangement, became Premier and Chancellor of the Exchequer, and for upwards of twenty years from that period (April 1721), he must be looked on as the prime manager of the public affairs.

At the beginning of the reign of George I. the national debt amounted to fifty-three millions, and, owing to there having been no war, it was rather less at the time of the king's death. The annual expenditure of the state was about seven millions, or scarcely a seventh part of what it now is. The commerce and manufactures of England continued to advance steadily during this reign; but Scotland and Ireland remained in an unimproved state. Roads were now for the first time made in the Highlands. The chief literary men were the same as those who had come into repute in the time of Queen Anne: in addition to them, John Gay is to be reckoned amongst the poets, and Waterland and Lardner amongst the divines. This was also more particularly the age of Daniel Defoe, a dexterous writer of pamphlets on the nonconformist side, but far more noted in later times on account of his admirable tale of Robinson Crusoe.

GEORGE II.—WAR WITH SPAIN AND FRANCE.

George I., at his death in 1727, was succeeded by his son, GEORGE II., a prince of moderate abilities, but conscientious, and free from all gross faults. In the early part of his reign, Walpole effected some useful measures, and upon the whole was a vigorous and enlightened administrator of public affairs, though nothing can justify the extensive system of bribery by which

alone he pretended to manage the House of Commons. After a peace of extraordinary duration, he was urged, much against his will, into a contest with Spain, on account of some efforts made by that country to check an illicit trade carried on by British merchants in its American colonies. In searching vessels for the prevention of this traffic, the Spaniards had made some trifling aggressions; and British spirit took fire at the indignity of being liable to a search by any neighbouring state, even for the prevention of a notorious breach of treaty. The community therefore demanded a war, and the minister, with great reluctance, was obliged to comply. One fleet, under Admiral Haddock, was sent to cruise off the coast of Spain, and another, under Admiral Vernon, was sent against the American colonies. The latter gained lustre by taking the important town of Portobello. Another and larger expedition, with 10,000 soldiers, was then sent to reinforce Vernon; but, owing to disputes between him and the commander of the troops, no further triumphs were gained. A timid, ill-concerted, and ill-conducted attack upon the fortifications of Carthagena, lost Britain about 20,000 men. Meantime, a third fleet, under Anson, sailed to the eastern coast of Spanish America, in order to co-operate with Vernon; but only one of the vessels reached its destination. Anson, thus reduced in naval force, took several prizes off Chili, and plundered the town of Paita, but could venture upon no more hazardous enterprise. He cruised across the Pacific, in the hope of meeting one of the Spanish galleons, which usually contained great quantities of bullion; but did not succeed, till, on his return from refitting at Canton, he took the Manilla transport, with treasure to the amount of three hundred thousand pounds. Though he had failed in all the proper objects of his expedition, the money he brought to the public treasury caused him to be very well received by the people; while the flagrant mismanagement at Carthagena was the subject of general execration.

The Spanish war now languished for some time, while the attention of Britain was attracted to the proceedings of France. After the death of the Emperor Charles VI. of Germany, his dominions fell by inheritance to his daughter, the celebrated Maria Theresa, Queen of Hungary. She was opposed in this succession by the sovereigns of France, Saxony, and Bavaria, all of whom pretended to have some claims on her dominions. A war was commenced against her; the Elector of Bavaria was crowned emperor, under the title of Charles VII.; and such was the success of the French arms, that she was soon reduced to the greatest distress. With this quarrel Britain had little reason for interfering; but the king thought his dominions in Germany endangered, and the people were animated by their usual hostility to the French. Walpole, being conscientiously opposed to the war, allowed himself to be driven from office (February 1742), though he still continued to enjoy the respect of the king.

The ministry was recruited by the most popular men of the late minority, among whom the most conspicuous were Lord Carteret and the Earl of Bath. To the surprise of the nation, this set of statesmen opposed, now they were in power, all the improvements they had lately professed to clamour for, and seemed even more willing than their predecessors to carry out the policy which was suggested by the king's anxiety on account of his foreign dominions. About the time when Great Britain entered into this struggle, the affairs of the Hungarian queen took a surprising turn, and her armies, under her husband the Grand Duke of Tuscany, Prince Charles of Lorraine, and other eminent commanders, began to drive her enemies from her dominions. France, having lost 100,000 men in the contest, sued for peace; but this the queen haughtily refused, in the hope of gaining still greater triumphs by means of Britain. The aid of that power, as it turned out, was of little service to the queen. The Earl of Stair had permitted his army to get into a position of great difficulty at Aschaffenburg, on the Upper Maine, and, but for a blunder of the French, it would probably h starved into a surrender, along with the king a minister (Carteret), both of whom had recent it. The blunder consisted in an attack mad Duke of Grammont, with 30,000 troops, upon tish and Hanoverian infantry, upon a plain village of Dettingen (June 16, 1743). The cheered by the presence of the king, who rode the lines with his sword drawn, received the the French cavalry with great firmness, and c them to retreat—a movement which commu panic to the whole French army, and might h attended with the most disastrous consequence British monarch would have permitted his a to be followed up. This was the last occasion of Great Britain appearing on the field of batt

The death of the Emperor Charles VII., f this great European contest appeared to have rise, might have now given an opportunity for sation of hostilities; but the French thought still necessary, in order to prevent the husband Theresa from being elected emperor, and th were still animated by their usual antipath French. A campaign was therefore opened in the troops of the French nation being comm Count Saxe, distinguished for military genius perience; while the British and Hanoverian a under the charge of the young Duke of Cun second son to the king. To animate the Frenc their sovereign (Louis XV.) and the dauphin the camp. The French having invested To was resolved by the English to hazard a battle, to save that strong city.

The rencounter took place (May 1745) at F near the bridge of Colonne. The British inf vanced under Cumberland, and, notwithsta tremendous fire, which swept them off in who attacked the centre of the position of the Fren which they beat back in so furious a style, t advised the king to retire for the safety of hi Louis bravely refused to stir, being apprehen a retrograde motion on his part would decide against his army. Ashamed to desert their s the French returned to the charge; the cavalry their efforts; and other circumstances conspire a turn to the battle. The British cavalry were p by a mistake from giving their support to the i and the Dutch and Austrian part of the army v totally ineffective. Assailed on all sides, fatig their great exertions, and galled by the French the infantry was obliged to retire, with a loss men, after having beaten every regiment in th army. The Duke of Cumberland, though able draw in good order, did not venture after this to face the enemy during the whole campaign. theless, the Queen of Hungary at this time g summit of her wishes, by the election of her to the imperial throne.

REBELLION OF 1745.

The Pretender had married, in 1719, the Clementina Sobieski of Poland, and was now t of two sons in the bloom of youth, the elder has been distinguished in history by the title Charles Stuart. The misfortunes of the Brit on the Continent, and the dissensions which among the people and the Parliament, encoura prince to make an attempt to recover the thro ancestors. In 1744, he had been furnished b with a large fleet and ample stores to invade th dominions, but had been driven back by a sto prevented from again setting sail by a super under Sir John Norris. The object of Franc enterprise was to produce a diversion in favou own army in the Netherlands. At present, i quence of the victory of Fontenoy, such an e was no longer necessary; but though the Fre narch would not grant him any further supply, resolved to make the proposed attempt, trusti

possibility and valour of his friends in Britain. ...ceptions landed from a single vessel, with only ...attendants, on the coast of Inverness-shire, where ...most attached to his family chiefly resided. ...secretly working upon the ardent feelings of the ...chiefs, he soon induced several of them to ...arms, among whom were Lochiel, Clanronald, ...ery, and Keppoch.

The 19th of August, he raised his standard at ...nock, within a few miles of the government sta... of Fort William, and found himself surrounded by ...1500 men. The government was at first inclined ...discredit the intelligence of these proceedings, but ...was obliged to take steps for its own defence. A ...d of thirty thousand pounds was offered for the ... of the young prince, who, with all his family, was ...y attainder to act of Parliament; and Sir John ..., commander of the forces in Scotland, was ordered ...ceed with what troops he had into the Highlands, ...suppress the insurrection. Cope proceeded on this ...with about 1400 infantry; but on finding the ...enders in possession of a strong post near Fort ..., he thought it necessary to go aside to Inver... Charles, taking advantage of this ill-judged ...ment, immediately poured his clans down into the ..., gaining accessions every where as he ad... ; and, there being no adequate force to oppose ..., he took possession successively of Perth and ...rgh.

...ope transported his troops back to Lothian ... sail, on the 21st September, a rencontre took ...between him and Charles, at Prestonpans. Seized ... panic, the royal troops fled disgracefully from ..., leaving the prince a complete victory. With ...ore those acquired by his arms, he might have ...with four or five thousand men, made a formid... ...ursion into England. Before he could collect such ..., six weeks passed away, and when at length ...mber 1) he entered England, a large body of ... had been collected to oppose him. After a bold ...ce to Derby, he was obliged by his friends to ...back. At Stirling he was joined by considerable re...ements, and on the 17th of January 1746, a battle ...place at Falkirk between him and General Hawley, ...mbering about 8000 troops. Here Charles was ... successful; but he was unable to make any use ... victory, and soon after found it necessary to ...raw his forces to the neighbourhood of Inverness, ...he spent the remainder of the winter. The Duke ...erland now put himself at the head of the ... troops, which had been augmented by 6000 auxi... under the Prince of Hesse. During the months ...uary and March, the Highland army was cooped ...thin its own territory, by the Hessians at Perth, ...e royal troops at Aberdeen. At length, April ...Prince Charles met the English army in an open ... at Culloden, near Inverness, and experienced a ...overthrow. He had himself the greatest difficulty ...ping from the country, and the Highlands were ...ected for several months to the horrors of military ...ss in all its worst forms.

...o complete the subjugation of this primitive people, ...ereditary jurisdictions under which they and the ... of the people of Scotland still lived, and by which ...nobles and gentry were enabled to administer jus... at their own discretion, were abolished by act of ...ament. Another act put an end to the tenure of ...holdings, by which the land-proprietors were ...ed to command the personal services, in peace and ... of those who lived on their estates. A third act ...ibited the use of tartan and the ancient Highland ...s of clothes, which were supposed to have the ... of keeping alive the warlike spirit of the moun... The two former of these measures, in con... with the suppression of the Stuart cause, and ...other circumstances, produced a marked improve... in the social state of the Scottish people. The ...ament, it must be remarked, had hitherto acted ...e Scotland in a harsh and partial spirit. Sus...

pected and hated by the ruling faction, the High...landers had every temptation to continue in adherence to the exiled family. But when the government be...gan to treat them in a milder spirit, and admitted them to the army and other branches of the public service, their naturally generous and loyal feelings were turned as zealously in favour of the new dynasty as they ever had been in favour of the old. The middle of the eigh...teenth century may be described as the time when Scot...land, after a long period of sloth and poverty, first be...gan to make advances towards that equality with Eng...land, in respect of comfort and prosperity, which it has since attained.

PEACE OF AIX-LA-CHAPELLE.

During the remainder of the war in which Britain and other powers were now engaged with France, the latter was generally successful by land, and unfortunate at sea, the contrary being the case with Britain. In 1748, the two countries found, after nine years of contention, that their losses were equal, though in different departments of their strength. Thirty millions had been added to the national debt of Britain, and France had expended an equal sum. They therefore agreed, by a treaty formed at Aix-la-Chapelle, mutually to restore their respective conquests, and to go back in exactly the same condition in which they stood before the war. A more signal illustration could have scarcely been held forth of the important truth—that war is to the parties in general only a means of waste and loss, and can do no good to any man except at the expense of his neighbour.

COLONIES AND DEPENDENCIES OF BRITAIN—THE SEVEN YEARS' WAR.

For several years after this period the national resources underwent rapid improvement. The most respectable minister who immediately followed Walpole, was the Honourable Henry Pelham, First Lord of the Treasury and Chancellor of the Exchequer, whose commercial and financial schemes were usually very successful. Since the reign of Elizabeth, the British had been active in planting and rearing colonies; of which a considerable number now existed in the West Indies and in North America. The East India Company had also obtained large possessions in Hindostan, which proved the source of great wealth to Britain. The exclusive spirit in which Britain managed the commerce of those territories, provoked the cupidity of the French, who commenced a system of aggression both in India and North America. They, in particular, drew a line of forts along the back settlements of the whole range of the American colonies, from the Gulf of St Lawrence to the Mississippi, so as to prevent the settlers from advancing beyond the Appalachian mountains.

For two or three years the British government suffered these aggressions, and even insults of a more decided nature, to pass unresented; but at length it was determined, in 1756, to proclaim war. A campaign of a novel and difficult character was opened in North America, for the purpose of driving the French from their forts. The first movements were attended with defeat and disaster. The French had gained the exclusive affection of the native Indians, who proved a dangerous and barbarous enemy to the British. Several of the forts were attacked, but without success; in the assault upon Ticonderago, 2000 men were killed. At length, on the accession of Mr William Pitt (afterwards Earl of Chatham) to the office of Secretary of State, a more auspicious era commenced. The British troops and provincials became more experienced in the nature of the service. One after another, the principal forts fell into their hands; and a diversion was created by an attack upon Canada. In September 1759, General Wolfe reduced the town and fort of Quebec, though at the expense of his own life; and the whole colony soon after submitted to the British arms. Meanwhile, Colonel Clive had been equally successful in the East

Indies. He had destroyed the French settlement at Pondicherry, thereby securing to his country the whole coast of Coromandel; and by his famous victory at Plassey (June 26, 1756), over a combination of French and native forces, he laid the foundation of the great territorial power which the British have since gained in Hindostan. Thus the French, instead of gaining the colonies of other nations, ended by losing some of their own.

While Britain was thus successful in two remote quarters of the world, she experienced a different fortune in Europe. Austria, Russia, and Poland, had combined with France against the new and rising power of Prussia, which was at present directed by Frederick II., commonly called Frederick the Great. Britain on this occasion became the ally of the Prussian monarch, not from any regard to her own interests, but in order that the king might be able to protect his Hanoverian dominions. Immense sums of money were raised for the purpose of paying the troops of those countries which the king was anxious to defend; and the Duke of Cumberland was appointed their commander. This prince was so unfortunate (September 1757) as to bring an army of 40,000 men into an angular piece of country, from which there was no escaping, so that the whole were obliged to lay down their arms to the French, who then became masters of Hanover. Notwithstanding this failure on the part of his ally, Frederick was able, by his extraordinary military genius, and by British subsidies, to defend his dominions for several years against all the forces that Austria, France, and Russia, could bring against him. In the midst of this war (October 25, 1760), George II. died suddenly, in the seventy-seventh year of his age, and was succeeded by his grandson GEORGE III., then only in his twenty-third year.

MISCELLANEOUS CIRCUMSTANCES CONNECTED WITH THE REIGN OF GEORGE II.

The chief domestic event of the reign of George II. was the rise of the religious sect called Methodists. The church had for a considerable time been in a languid state; amongst the community there was little religious feeling of a fervid character; and at no previous time were there so many conspicuous writers against the main doctrines of Christianity. John Wesley, a clergyman of the established church, and several other individuals of an enthusiastic turn of mind, were prompted by these circumstances to attempt to rouse a more zealous piety amongst the people; and in this object they were surprisingly successful. Another clergyman named Whitefield, gifted with oratorical powers which gave him great command over the feelings of an audience, proved of much service as an itinerant preacher in working this reformation. The consequence of these exertions was the organisation of a new religious body, generally called Methodists, comprehending a vast number of congregations in all parts of the kingdom, as well as in the American colonies.

Newspapers first acquired political importance in this reign. They originated in the time of the Commonwealth, but none of a regular periodical nature appeared till after the Restoration, when a busy writer named Roger L'Estrange established in London a weekly one called *The Intelligencer*. Till the Revolution, such small and unimportant newspapers as existed, were trammelled by a licensing power and censorship. When these restrictions were removed, newspapers increased in number, till, in 1709, they were again restricted by the imposition of a penny stamp. In these days newspapers were chiefly conducted by a set of needy and poor writers, to whom the term "Grub Street authors" was generally applied, from many of them living in that wretched part of London. The influence which newspapers were calculated to have over the public mind, was first recognised by Sir Robert Walpole, who, while he never thought of giving the least encouragement to literature on its own account, liberally pensioned various editors who supported his government. About the beginning of this reign, were, in London, one daily paper, fifteen three times week, and one twice a-week, besides a few country papers. A monthly pamphlet, begun in 1731 by Edward Cave, a London bookseller, under the name of the *Gentleman's Magazine*, was composed of the best articles from the newspapers; and thus originated the periodical works termed magazines, which are now conspicuous as vehicles of light literature and political discussion.

The peculiar literary genius of the age was shown in the fictitious prose writings of Fielding, Smollett, Sterne, and in the pictures of Hogarth, all of which represent the national character in its greatest breadth. The novels of Richardson are equally accurate descriptions of manners, but contain no trace of the humour. Next in distinction to these writings, may be placed the essays of John Hawkesworth and Samuel Johnson, the latter of whom did a great service to literature in compiling a dictionary of the English language. James Thomson, William Collins, and Thomas Gray rank high as poets. Carte and Echard were respectable historical writers; and philosophy was cultivated by Francis Hutcheson and David Hartley. Drs Conyers Middleton, Joseph Butler, and Isaac Watts, were the principal writers on religious subjects.

GEORGE III.—BUTE ADMINISTRATION.—PEACE OF 17

Soon after his accession, George III. espoused Princess Charlotte of Mecklenburg-Strelitz, by whom he had a large family. One of his earliest political measures was to confer one of the state-secretaryships upon the Earl of Bute, a Scottish nobleman of Tory Jacobite predilections, who had been his preceptor, and possessed a great influence over his mind. This, with other alterations, infused a peaceful disposition into majesty's counsels, which was not much relished by Pitt. That minister, having secretly discovered that Spain was about to join France against Britain, being thwarted in the line of policy which he consequently thought it necessary to assume, retired with a pension, and a peerage to his wife; after which the ministry was rendered still less of a warlike temper. A negotiation for peace was entered into with France, which offered, for that end, to give up almost all her colonial possessions. The demands of the British were, however, rather more exorbitant than France expected, and not only was the treaty broken off, but Spain commenced those hostilities which Mr Pitt had foreseen. Nevertheless, Britain continued that splendid career of conquest, which, except at the beginning, had been her fortune during the whole of this war. In a very few months, Spain lost Havannah, Manilla, and all the Philippine Isles. The Spanish forces were also driven out of Portugal, which they had unjustly invaded; and on sea the British fleets reigned every where triumphant, and at no former period was the country in so proud a situation. The ministry, however, were sensible that war, even with all this good fortune, was a losing game, and they therefore, much against the will of the nation, concluded a peace in February 1763.

By this treaty, Great Britain gave up a certain portion of her conquests, in exchange for others which had been wrested from her; but on the whole she was nevertheless a gainer to an immense amount. She acquired from the French, Canada, that part of Louisiana east of the Mississippi, Cape Breton, Senegal, the Islands of Grenada, Dominica, St Vincent's, and Tobago, with all the acquisitions which the French had made upon the Coromandel coast in the East Indies since 1749. From Spain she acquired Minorca, East and West Florida, with certain privileges of value. The continental powers in alliance with Great Britain were also left as they had been. These advantages on the part of Great Britain had been purchased at the expense of an addition of sixty millions to the national debt, which amounted in all to £133,253,270.

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HISTORY OF GREAT BRITAIN AND IRELAND,

FROM THE PEACE OF 1763 TILL THE YEAR 1840.

TRANSACTIONS IN IRELAND.

...n the pacification at Limerick, Ireland had been ...d exclusively by the Protestant party, who, under ...influence of feelings arising from local and religious ...ctions, had visited the Catholics with many severe... These measures naturally rendered the Catholic ...ntented subjects, and led to much turbulence. ...common people of that persuasion, being denied ...ccess to justice, took it into their own hands, and ...ired those lawless habits for which they have since ...remarkable. Treachery, cruelty, and all the lower ...ions, were called into vigorous exercise. The passing of a bill in 1719 by the English Parliament, declaring the power to legislate for Ireland, occasioned general dissatisfaction, and caused the rise of a patriotic party in the Parliament and people of Ireland, who ...med to look to the advantage of the country, as ...guished from that of Great Britain. The discontent of the Tory party mingled with this spirit; and ...ebrated Swift, in 1724, blew it into a flame by ...ere pamphlets, called the *Drapier's Letters*, which ...ensibly decried a new coinage of halfpence, but ...in reality aimed at the English ministry.

The discontents of the Catholics continued unabated, ...the connections of the patriotic party with the ad...ers of the English ministry were carried on with ...greatest keenness in Parliament, when the rebellion ...Scotland (1745) alarmed the government for the ...ety of Ireland. The Earl of Chesterfield, celebrated ...his literary productions, was, in this exigency, sent ...a short time as lord lieutenant, and allowed to hold ...all possible encouragement to the Catholics and ...otic party. By discountenancing party distinc..., and giving the Catholics the full protection of the ..., he so effectually soothed and tranquillised the ...ery, that, while the neighbouring Protestant king... exhibited an army seeking the restoration of a ...ose prince, Ireland, though full of Christians of ... persuasion, and bound to the Jacobite cause by ...y underrood associations, remained perfectly faith... to the Hanover dynasty. When the danger was ..., the earl was recalled, and the former system re...ed. The struggles of the patriots with the English ...erial party were continued with unabated vio... down to the death of George II., without produc... any marked benefit to Ireland, although at one ... the former party gained an ascendancy in the ...ve Parliament.

CASE OF MR WILKES.

...ver since the accession of the Brunswick family in ..., the government had been chiefly conducted by ... Whig party, who formed a very powerful portion ...the aristocracy of England. Walpole, Pelham, New..., and Pitt, had all ruled chiefly through the strength of this great body, who, till a period subsequent to the rebellion of 1745, seem to have had the support of the more influential portion of the people. After that period, when the Stuart claims ceased to have any effect in keeping the crown in check, a division appears to have grown up between the government and the people, which was manifested in various forms even before the demise of George II., but broke out in a very violent manner during the early years of his successor. George III., who had imbibed high notions of the royal prerogative from the Earl of Bute, showed, from the beginning of his reign, an anxious desire to extend the power of the crown, to shake off the influence of the great Whig families, and keep popular force of all kinds within strict limits.

A stranger, with no connexion in the country, a favourite, and moreover a man of unprepossessing manners, the Earl of Bute had neither the support of the aristocracy nor of the people. He was assailed in Parliament, and through the newspapers, with the most violent abuse, the unpopular peace furnishing a powerful topic against him. To this storm he at length yielded, by retiring (April 8, 1763).

Among the public writers who assailed the ministry, none was more virulent than Mr John Wilkes, member for Aylesbury, and editor of a paper entitled the *North Briton*. Mr George Grenville, who succeeded Bute, commenced his career by prosecuting Wilkes for a libel, contained in the forty-fifth number of his paper, in which he had directly accused his majesty of falsehood. The king's messenger, being provided with a general warrant against the editor, printers, and publishers of the *North Briton*, entered the house of Mr Wilkes, and apprehended him. After being examined before the secretaries of state, he was committed to the Tower, and his papers were seized and sealed up. A few days after, he was brought to Westminster Hall by *habeas corpus*, and released by Chief-Justice Pratt, in consideration of his being a member of Parliament. The Parliament ordered the seditious paper to be burnt by the hands of the common hangman—an operation that produced a riot, not in itself dangerous, but serving to discover the angry spirit of the populace. Mr Wilkes was soon after expelled from the House of Commons, and found it convenient to retire to the continent. One result of his case was favourable to the popular cause: a prosecution which he instituted against the secretary of state, on the plea that his seizure was illegal, terminated in a verdict of damages, and a declaration by Chief-Justice Pratt, that general warrants were inconsistent with the laws of England.

AMERICAN STAMP ACT.

The administration of Mr Grenville is memorable for the first attempt to tax the American colonies. An act passed under his influence (March 1765) for im-

posing stamps on those countries, appeared to the colonists as a step extremely dangerous to their liberties, considering that they had no share in the representation. They therefore combined almost universally to resist the introduction of the stamped paper by which the tax was to be raised. Resolutions were passed in the various assemblies of the states, protesting against the assumed right of the British legislature to tax them. Partly by popular violence, and partly by the declarations issued by the local legislative assemblies, the object of the act was completely defeated.

The home government were then induced to agree to the repeal of the act, but with the reservation of a right to impose taxes on the colonies. Between the Stamp Act and its repeal, a change had taken place in the administration: the latter measure was the act of a Whig ministry under the Marquis of Rockingham, which, however, did not long continue in power, being supplanted by one in which Mr Pitt, now created Earl of Chatham, held a conspicuous place. The second Pitt administration was less popular than the first: the Earl of Chesterfield, reflecting on the title given to the minister, at the same time that he sunk in general esteem, called his rise a *fall up stairs*. All the ministries of this period laboured under a popular suspicion, probably not well founded, that they only obeyed the will of the king, while the Earl of Bute, as a secret adviser behind the throne, was the real though irresponsible minister.

At the suggestion of Mr Charles Townsend, a member of the Earl of Chatham's cabinet, it was resolved, in 1767, to impose taxes on the Americans in a new shape, namely, upon British goods imported into the colonies, for which there was some show of precedent. An act for imposing duties on tea, glass, and colours, was accordingly passed with little opposition. Soon after this, Mr Townsend died, and the Earl of Chatham, who had been prevented by illness from taking any share in the business, resigned. The Americans met the new burdens with the same violent opposition as formerly.

THE WILKES TUMULTS.

Early in 1768, a new administration was formed under the Duke of Grafton, a pupil of Chatham, and soon after a new Parliament was called. At the general election, Mr Wilkes re-appeared in England, though a sentence of outlawry still stood against him. He even ventured to become candidate for the county of Middlesex, where he was returned by a large majority. Having previously surrendered to the jurisdiction of the King's Bench, his outlawry was reversed; but by virtue of the verdicts which two courts had given against him, he was subjected to a fine and two years' imprisonment. On his arrest, Mr Wilkes quietly committed himself to the officers of justice, but was forcibly rescued by the populace; and in a riot subsequent to this violence, a young man, who had no participation in the tumult, was killed. During his imprisonment, Mr Wilkes was formally expelled the House, on the pretext that, by the vote of censure passed by the preceding Parliament, he was for ever disqualified from being a representative of the people. This decision incensed a great portion of the community, and the case became identified in their estimation with the liberties of the nation itself. Four times did the county of Middlesex return Mr Wilkes; but the rival candidate, Colonel Luttrell, with only a fourth of the votes, was accepted by the House.

These proceedings occasioned many keen debates in the House of Commons, where an opposition of much talent and ardour of purpose now took up every popular question. Tumults of a dangerous character were constantly taking place; the cry of "Wilkes and Liberty" resounded every where, excepting only in Scotland, his scurrility against the Scotch having rendered him generally detested in that country. Even the municipal bodies and corporations, though usually not easily moved by popular objects, became zealous partisans of Mr Wilkes, and thought it their duty to remonstrate with the king on the high hand with which his ment was conducted. At this agitated time (1 unknown writer, styling himself Junius, comm series of letters in a newspaper, animadvertir most virulent manner on both the men and n of the government. These compositions were t remarkable, as, from the force and elegance style, they were evidently the production of sc son, not only far above the usual character paper writers, but fitted to rank with the first i of his day. The publisher of the newspaper secuted for publishing them; but the author r concealed, and his name, though still an object sity, has never been discovered.

MINISTRY OF LORD NORTH—THE CITY OF LONI REMONSTRANCE.

At the opening of Parliament in January was expected that the conspicuous topic in th speech would be the Middlesex election. The was general when it was found that the king make the least reference to the troubles respec Wilkes. The opposition were enraged at th sight, and moved, as an amendment to the that an inquiry ought to be made into the caus prevailing discontents; on which occasion, James Fox, afterwards so celebrated as a leader, made his first speech in Parliamen amendment was negatived by 254 against 18 showed that the king was quite secure of the of the House of Commons.

At this time, the Duke of Grafton retired f cabinet, and his place was supplied by Lord N of the Earl of Guilford. The new ministry tenth which had existed during as many years, first in which the king might be considered pletely free of the great Whig families, who, Parliamentary influence, had possessed the chi since the Revolution. This was the beginning o of Tory administrations, which, with few and tervals, conducted the affairs of the nation dow close of the reign of George IV.

The supposed injury which the cause of free had sustained from the decision of the House mons, still for a time agitated the public mind. eight peers, including all the great Whig chiefs shire, Rockingham, Grosvenor, Fitzwilliam, Tan King, &c.), besides the Earl of Chatham, made declaration that they should not cease their ef they had obtained full justice to the electors of The city of London, and some other corpora note, presented remonstrances to the king on t subject. The policy of the king and cabinet wear out the public fervour by dignified silen notice was therefore taken of these remons Under the policy of the king, the Wilkes agita time subsided.

THE AMERICAN WAR OF INDEPENDENCE.

Meanwhile, the remonstrances of the Americ nists had induced the ministry to give up all taxes, excepting only that on tea, which it wa mined to keep up, as an assertion of the right liament to tax the colonies. In America, t remaining tax continued to excite as much di as the whole had formerly done, for it was the p of a right to impose taxes which they found fa and not the amount of the tax itself. Their di with the mother country was found to affect tr siderably, and the British merchants were an bring the dispute to a close. The government v induced to grant such a drawback from the Brit on tea, as enabled the East India Company to c article in America at a lower rate than form that the American duty, which was only thr a-pound, did not affect the price. It was never that this expedient would satisfy the colonists, a shipments of tea were accordingly sent out fr British ports. But the principle of the right to

lurked under the concession, and the result only showed how little the sentiments of the Americans were understood.

The approach of the tea cargoes excited them in a manner totally unlooked for in Britain. At New York and Philadelphia, the cargoes were forbidden to land. In Charlestown, where they were permitted to land, they were put into stores, and prohibited from being sold. At Boston, a ship-load, which had been introduced into the harbour, was seized by a lawless mob, and tossed into the sea. This last act of violence was resented by the passing of a bill in Parliament for interdicting all commercial intercourse with the port of Boston, and another for taking away the legislative assembly of the state of Massachusetts. The former measure was easily obviated by local arrangements; and in reference to the latter, a congress of representatives from the various states met at Philadelphia, in September 1774, when it was asserted that the exclusive power of legislation, in all cases of taxation and internal policy, resided in the provincial legislatures. The same assembly denounced other grievances, which have not here been particularly adverted to, especially an act of the British legislature for trying Americans, for treasonable practices, in England. The congress also framed a covenant of non-intercourse, by which the whole utility of the colonies to the mother country, as objects of trading speculation, was at once laid prostrate. The colonists still avowed a desire to be reconciled, on the condition of a repeal of the obnoxious statutes. But the government had now resolved to attempt the reduction of the colonists by force of arms. Henceforth, every proposal from America was treated with a proud silence on the part of the British monarch and his advisers.

The war opened in summer 1775, by skirmishes between the British troops and armed provincials, for the possession of certain magazines. At the beginning there seemed no hope of the contest being protracted beyond one campaign. The population of the colonies was at this time under three millions, and they were greatly inferior in discipline and appointments to the British troops. They possessed, however, an indomitable zeal in the cause they had agreed to defend, and fought with the advantage of being in the country of their friends. At Bunker's Hill, near Boston (June 17, 1775), they had the superiority in a well-contested fight with the British troops, of whom between two and three hundred were killed. At the end of one year, the British government was surprised to find that no progress had been made towards a reduction of the Americans, and sent out an offer of pardon to the colonists, on condition that they would lay down their arms. The proposal only met with ridicule.

On the 4th of July 1776, the American congress took the decisive step of a declaration of their independence, embodying their sentiment in a document remarkable for its pathos and solemnity. During the next two campaigns, the slender forces of the new republic were hardly able any where to face the large and well-appointed armies of Great Britain. Much misery was endured by this hardy people in resisting the British arms. Notwithstanding every disadvantage and many defeats, America remained unsubdued.

The first serious alarm for the success of the contest in America, was communicated in December 1777, by intelligence of the surrender of an army under General Burgoyne at Saratoga. In the House of Commons, the ministers acknowledged this defeat with marks of deep dejection, but still professed to entertain sanguine hopes, from the vigour with which the large towns throughout Britain were now raising men at their own expense for the service of the government. Mr Fox, the leader of the opposition, made a motion for the discontinuance of the war, which was lost by 165 to 259, a much narrower majority than any which the ministry had before reckoned in the Lower House.

In proportion to the dejection of the government, was the elation of the American congress. Little more than two years before, the British sovereign and ministers had treated the petitions of the colonists with silent contempt; but such had been the current of events, that, in 1778, they found it necessary, in order to appease the popular discontent, to send out commissioners, almost for the purpose of begging a peace. As if to avenge themselves for the indignities of 1775, the Americans received these commissioners with the like haughtiness; and, being convinced that they could secure their independence, would listen to no proposals in which the acknowledgment of that independence, and the withdrawal of the British troops, did not occupy the first place. The ministers, unwilling to submit to such terms, resolved to prosecute the war, holding forth to the public, as the best defence of their conduct, the necessity of curbing the spirit of insubordination, both in America and at home, which they described as threatening the overturn of the most sacred of the national institutions.

The rise of Great Britain during the seventeenth and eighteenth centuries, in wealth and military and naval power, had been observed by many of the surrounding states with no small degree of jealousy. France, in particular, had not yet forgiven the triumphant peace which Britain had dictated in 1763. The Americans, therefore, by their emissary, the celebrated Benjamin Franklin, found no great difficulty in forming an alliance with France, in which the latter power acknowledged the independence of the colonists, and promised to send them large auxiliary forces. Viewing the distressed state to which Britain was reduced by the contest, and concluding that the time had arrived to strike a decisive blow for her humiliation, Spain soon after declared war against her; and in 1780, Holland was added to the number of her enemies. Russia then put herself at the head of what was called an Armed Neutrality, embracing Sweden and Denmark, the object of which was indirectly hostile to Britain. So tremendous was the force reared against Britain in 1779, even before all these powers had entered into hostilities, that it required about three hundred thousand armed men, three hundred armed vessels, and twenty millions of money annually, merely to protect herself from her enemies. Even her wonted superiority at sea seemed to have deserted her; and for some time the people beheld the unwonted spectacle of a hostile fleet riding in the Channel, which there was no adequate means of opposing.

It was now obvious to the whole nation, that this contest, upon whatever grounds it commenced, was a great national misfortune; and the Opposition in Parliament began to gain considerably in strength. After some votes, in which the ministerial majorities appeared to be gradually lessening, Mr Dunning, on the 6th of April 1780, carried, by a majority of eighteen, a motion, "that the influence of the crown had increased, was increasing, and ought to be diminished." This was looked upon as a severe censure of the government, considering that the House of Commons was not altogether a popular body, but included many who had seats there only through the influence of the crown, or by the favour of the nobility and gentry.

In the year 1778, an act had been passed, relieving the Roman Catholics in England from some of the severe penal statutes formerly enacted against them. The apprehension of a similar act for Scotland caused the people of that country to form an immense number of associations, with a view to opposing it; and, in the early part of 1779, the popular spirit broke out at Edinburgh and Glasgow in several alarming riots, during which one or two Catholic chapels, and some houses belonging to Catholics, were pillaged and burnt. An extensive Protestant Association was also formed in England, to endeavour to procure the repeal of the English act. This body was chiefly led by Lord George Gordon, a son of the late Duke of Gordon, and member of the House of Commons. In June 1780, an immense mob assembled in London to accompany Lord George to the House of Commons, where he was to present a

petition against the act, signed by 120,000 persons. His motion for the repeal of the act being rejected by a vast majority, he came out to the lobby and harangued the crowd in violent terms, suggesting to them similar acts to those which had taken place in Scotland. The mob accordingly proceeded to demolish the chapels of the foreign ambassadors. Meeting with no effectual resistance, for the magistrates of the city were afraid to take decisive measures against them, they attacked Newgate, released the prisoners, and set the prison on fire. The new prison at Clerkenwell, the King's Bench and Fleet Prisons, and the New Bridewell, were treated in like manner. At one time, thirty-six fires were seen throughout the city. The mob had uncontrolled possession of the streets for five days, pillaging, burning, and demolishing; until the king in council determined to authorise the military to put them down by force of arms. Tranquillity was then restored, but not before upwards of 400 persons were killed and wounded. Many of the ringleaders were convicted and executed. Lord George Gordon was tried for high treason, but acquitted on a plea of insanity, which his subsequent life showed to be well founded. Similar outrages were attempted in other cities, but prevented by the vigour of the magistrates. The chief sufferers from these riots were the party who aimed at political reforms. On the other hand, the king obtained increased respect, in consequence of the firmness he had shown in taking measures for the suppression of the riots.

The states of North and South Carolina, which contained a larger proportion of persons friendly to the British crown than any of the northern states, had submitted, in 1780, to a British army under General Clinton. Next year, the greater part of the troops which had been left in those states were conducted northward by Lord Cornwallis, in the hope of making further conquests; but the consequence was that General Greene, after a series of conflicts in which he greatly distressed various parties of the British troops, regained both Carolinas, while Lord Cornwallis took up a position at Yorktown in Virginia. At this time, General Washington, the American commander-in-chief, to whose extraordinary sagacity and purity of motives the colonists chiefly owed their independence, was threatening General Clinton's army at New York. Clinton tamely saw him retire to the southward, believing that he only meant to make a feint, in order to draw away the British from New York, when he in reality meant to attack Cornwallis. On the 29th of September (1781), Yorktown was invested by this and other corps of Americans and French; and in three weeks more, the British batteries being completely silenced, Lord Cornwallis surrendered, with his whole army. With this event, though some posts were still kept up by British troops, hostilities might be said to have been concluded.

At the next opening of Parliament, many of those who had formerly supported the war, began to adopt opposite views; and, early in 1782, a motion, made by General Conway, for the conclusion of the war, was carried by a majority of nineteen. The necessary consequence was, that, on the 20th of March, Lord North and his colleagues resigned office, after twelve years of continued misfortune, during which the prosperity of the country had been retarded, a hundred millions added to the national debt, and three millions of people separated from the parent state.

As usual in such cases, a new administration was formed out of the Opposition. The Marquis of Rockingham was made prime minister, and Mr Fox one of the secretaries of state. The new ministers lost no time in taking measures for the restoration of peace. Unfortunately for their credit with the nation, Sir George Rodney gained an important victory over the French fleet off the island of Dominica, April 12, 1782, after the ministers had dispatched another officer to supersede him in the command. On this occasion, thirty-seven British vessels encountered thirty-four French, and, chiefly by the dexterous manœuvre of a breach of the enemy's line, gained one of the most complete victories recorded in modern warfare. The trium
eminently necessary, to recover in some mea
national honour, and enable the ministers to
the war upon tolerable terms. In Novembe
sional articles for a peace with the United States
rica, now acknowledged as an independent pow
signed at Paris, and the treaty was conclud
ensuing February. When the American am
was afterwards, for the first time, introduce
British levee, the king received him kindly, a
with a manly frankness, that though he had
last man in his dominions to desire that the
dence of America should be acknowledged, he sh
be the last to wish that that acknowledgment s
withdrawn. War was soon after concluded with
Spain, and Holland, but not without some com
concessions of colonial territory on the part
Britain.

The conclusion of this war is memorable as
of great suffering, arising from the exhaustio
national resources, the depression of comme
the accident of a bad harvest. The principle
sperity were after all found to be so firmly
the country, that, immediately after the first d
had passed away, every department of the state
its wonted vigour; and, during the ensuing t
of peace, a great advance was made in nationa

On the unexpected death of the Marquis of
ham, in July 1782, the king chose as his succe
Earl of Shelburne, who, though nominally a W
not sufficiently inclined to the general measure
party to be agreeable to Mr Fox and other
members of the cabinet. On their consequent
tion, the vacancies were filled up by the friends
burne, among whom was Mr William Pitt, a
son of the Earl of Chatham. This young st
to whom was assigned the office of chancello
exchequer, had already distinguished himself
part he took in the popular proceedings for
of the House of Commons—an object which t
sition and their supporters had for some yea
cated with great zeal, but which soon after
great measure out of public notice.

COALITION MINISTRY.

The present ministry was opposed by two p
very different principles, namely, the adherent
North administration, and the friends of thos
who had lately retired from the cabinet. Th
parties, notwithstanding that they had been op
each other throughout all the late war, coale
factious or ambitious purposes; and, being trit
over the ministry, forced themselves upon th
counsels. Then was formed (April 2, 1783) w
called the Coalition Ministry, in which Lord N
Mr Fox acted together as secretaries of state,
two years had hardly elapsed since the lat
breathed the most violent threats in Parliament
his present associate. A coalition, in which
principle was supposed to be abandoned for the
office, could not be agreeable to the nation, whi
evidently embarrassing to the sovereign. Mr
prepared and carried through the Lower H
famous bill for the regulation of the East Ind
pany, by which all authority was to devolve o
directors chosen by the House of Commons;
words, by which the immense patronage of this
of the empire was to fall into the hands of the n
The India bill, as it was called, was generally s
to aim at fixing the ministry in power beyond
trol of both king and people, and it accordingly
much indignation. His majesty, therefore, ful
dent of support from the people, used his pers
fluence, in no covert way, to induce the House
to reject the bill, and (December 18) sent a me
to demand the seals of office from his over-ar
ministers, appointing Mr Pitt to be the prime
and chancellor of the exchequer of a new cabin
sisting chiefly of his majesty's friends.

e various departments of the state were now thrown
relative position, which had never been known
e, and has never recurred. The king and his mi-
, backed by a decided majority of the public,
opposed by two powerful aristocratic factions in
louse of Commons, who defeated every measure
as introduced, refused the usual supplies, and
again and again resolutions against the continu-
of the present men in office, which they denounced
constitutional. But in the course of a few weeks,
influence of the opposition was sensibly reduced;
ublic sentiment and the power of the court began
e effect even on this intractable body; and when
gth their majority had been worn down to *one*,
happened on a motion by Mr Fox, the king dis-
d the Parliament—a measure which, whatever it
promise to him, he did not previously think
iable. So far were the votes of the coalition from
based on popular support, that in the new elec-
no fewer than one hundred and sixty members
their seats. The new House of Commons was so
rable towards the king and ministry, as to enable
ublic service to go on without further interrup-

LEGISLATIVE MEASURES IN IRELAND.

om the end of the reign of George I., a patriotic
in Ireland, composed of a mixture of Catholics and
stants, had been exerting itself to reduce the in-
ce of the English ministry in their country. The
tance of the American colonists gave a powerful
lus to this body; and, on some alarm of an inva-
of the French, they found a pretext for taking up
, apparently for the protection of the country, but
ality to render themselves formidable to England.
uraged by Parliament, and headed by the princi-
en in the country, the Volunteer Corps, as they
called, held meetings and passed resolutions, in
h they openly avowed their determination, at the
rd of life and fortune, to achieve the indepen-
e of the native legislature, and a complete parti-
ion in the commercial rights of the British. The
rnment, being then too feeble to resist, bowed to
demands. Poyning's law, and others which had
the English Parliament a right to interfere with
nd, were repealed; and acts were passed for the
of *habeas corpus* and the independence of the
es. In November 1783, the volunteers held a
l convention in Dublin, and proposed to urge the
ion of Parliamentary reform; but the government
began to regain strength, and in a short time, by
l measures, it prevailed upon the corps to dissolve.

STRY OF MR PITT—FROM 1784 TO THE COMMENCEMENT OF THE FRENCH REVOLUTION.

hough the favourite minister of a sovereign decidedly
ead to all popular innovations, Mr Pitt continued
rofess his former zeal for a reform in the House of
mons; but, as might be expected, was unable to
g the power of the government to bear upon the
ject. In April 1785, he asked leave of the House
ring in a bill for this object; but it was refused by
rge majority. The desire of Parliamentary reform
ertheless continued to animate a large portion of
community. In 1784, a regular society had been
ituted in Scotland, for the purpose of obtaining such
asure; and in the succeeding year, forty-nine out
he sixty-six boroughs had declared in favour of it.
re were also numerous associations of a similar
racter in England.
a 1786, Mr Pitt established his celebrated but fal-
ous scheme for redeeming the national debt, by
t was called a Sinking Fund. The revenue was at
time above fifteen millions, being about one million
re than was required for the public service. This
ss he proposed to lay aside annually, to lie at com-
nd interest; by which means he calculated that each
lion would be quadrupled at the end of twenty-eight
rs, and thus go a great way towards the object he had in view. To this scheme Mr Fox added the infinitely more absurd amendment, that, when the government required to borrow more money, one million of every six so obtained should be laid aside for the same purpose. The scheme was so well received as to increase the popularity of the minister, and it was not till 1813 that its fallacy was proved.

In the same year commenced the Parliamentary proceedings against Mr Warren Hastings, for alleged cruelty and robbery exercised upon the natives of India during his governorship of that dependency of Great Britain. These proceedings were urged by Mr Burke and other members of the Whig party, and excited so much public indignation against Mr Hastings, that the ministry was obliged, though unwillingly, to lend their countenance to his trial, which took place before Parliament in the most solemn manner, and occupied one hundred and forty-nine days, extending over a space of several years. The result was the acquittal of Mr Hastings.

The king and queen had, in the mean time, become the parents of a numerous family of sons and daughters. The eldest son, George, Prince of Wales, had now for several years been of age, and exempted from the control of his father. He had no sooner been set up in an establishment of his own, than he plunged into a career of prodigality, forming the most striking contrast with the chastened simplicity and decorum of the paternal abode. He also attached himself to the party of the Opposition, though rather apparently from a principle of contradiction to his father, than a sincere approbation of their political objects. The result was the complete alienation of the Prince of Wales from the affections of the king.

In November 1788, an aberration of intellect, resulting from an illness of some duration, was observed in the king, and it became necessary to provide some species of substitute for the exercise of the royal functions. To have invested the Prince of Wales with the regency, appeared the most obvious course; but this would have thrown out the ministry, as it was to be supposed that his royal highness would call the chiefs of his own party to his councils. Mr Fox contended that the hereditary nature of the monarchy pointed out an unconditional right in the prince to assume the supreme power under such circumstances; but Mr Pitt asserted the right of Parliament to give or withhold such an office, and proposed to assign certain limits to the authority of the intended regent, which would have placed the existing ministry beyond his reach. The Irish Parliament voted the unconditional regency to the prince; but that of Great Britain was about to adopt the modified plan proposed by Mr Pitt, when, March 1789, the king suddenly recovered, and put an end to the difficulty. The debates on the regency question show in a very strong light how statesmen will sometimes abandon their most favourite and strongest principles on the call of their own immediate interests.

MISCELLANEOUS CIRCUMSTANCES FROM 1760 TO 1790.

At the beginning of the reign of George III., both the commerce and the manufactures of the country might be considered as in a highly flourishing condition. Scotland was not now, as formerly, exempt from the general prosperity. In that country, since the year 1746, great improvements of various kinds had taken place: the linen manufacture had been much advanced; a trade with the colonies had sprung up; agriculture was undergoing great changes for the better; the Highlands were now peaceful, and throughout the whole country were seen conspicuous symptoms of increasing wealth, and its natural consequence, refinement of manners.

During the first ten years of the reign of George III., some discoveries and inventions were made, by which the prosperity of the whole empire received a new impulse. By the improvements effected in the steam-engine by Mr James Watt, a superior mechanic

power was obtained for the driving of machinery and other purposes. Mr James Hargreaves of Blackburn invented the *spinning-jenny*, a contrivance for abridging the use of hand-labour in the cotton manufacture. Upon this an improvement was afterwards made by Mr Richard Arkwright, who invented what was called the *spinning-frame*, by which a vast number of threads of the utmost fineness were spun with very little aid from hand-labour. A third invention, called the *mule-jenny*, by Mr Crompton of Bolton, came into use some years later; and, finally, the *power-loom* was invented, for superseding hand-labour in weaving. By these means, the cotton manufacture was brought to a pitch of prosperity in Britain, such as no particular branch of manufacture had ever experienced before in any country. The immense wealth produced by it is allowed to have been what chiefly enabled the nation to sustain the great contest in which it was afterwards involved with France. Considering these results, the original condition of the principal persons concerned in improving the manufacture is remarkable. Mr Watt, who gave it a mechanic force in the steam-engine, was an artisan in his early days; Mr Hargreaves was a carpenter; and Mr Arkwright a dresser of hair. The last, who was knighted by George III., left, at his death, nearly a million sterling, realised by the profits of his invention.

The early part of the reign of George III. was distinguished by the discoveries of Captain Cook in the Pacific Ocean, by the formation of many canals for internal navigation, and by the foundation of the Royal Academy for the Promotion of the Fine Arts. This period derives lustre from the admirable paintings of Barry, Blake, Hoppner, and Reynolds. Astronomy was cultivated by Dr William Herschel, who in 1781 discovered the planet Uranus. Chemistry was improved by Dr Joseph Black and Mr Cavendish. The science of medicine was advanced by Dr Cullen of Edinburgh; and natural history by Sir Joseph Banks. In literature, the chief place is due to Dr Samuel Johnson, who had flourished also in the preceding reign. Oliver Goldsmith, Mark Akenside, and William Cowper, were the most eminent poets. History was written in a masterly manner by William Robertson and David Hume; Henry Home, David Hume, and Adam Smith, figure as philosophical writers; Sir William Blackstone wrote on English law; and amongst divines, the most eminent were Bishops Warburton, Jortin, and Hurd.

FRENCH REVOLUTION, AND CONSEQUENT WAR WITH FRANCE.

The country had for several years experienced the utmost prosperity and peace, when it was roused by a series of events which took place in France. The proceedings of the French nation for redressing the political grievances under which they had long laboured, commenced in 1789, and were at first very generally applauded in Britain, as likely to raise that nation to a rational degree of freedom. Ere long, the violence shown at the destruction of the Bastille, the abolition of hereditary privileges, the open disrespect for religion, and other symptoms of an extravagant spirit, manifested by the French, produced a considerable change in the sentiments of the British people. The proceedings of the French were still justified by the principal leaders of Opposition in Parliament, and by a large class of the community; but they inspired the government, and the propertied and privileged classes generally, with great alarm and distrust.

When at length the coalition of Austria and Prussia with the fugitive noblesse had excited the spirit of the French people to a species of frenzy, and led to the establishment of a republic and the death of the king, the British government and its supporters were effectually roused to a sense of the danger which hung over all ancient institutions, and a pretext was found (January 1793) for declaring war against France. A comparatively small body of the people were opposed to this step, which was also loudly deprecated in Parliament by Mr Fox and Sheridan; but all these remonstrances were drowned in the general voice of the nation. At such a crisis, to speak of political reforms in E seemed the height of imprudence, as tending to rage the French. All, therefore, who contin make open demonstrations for that cause, we branded as enemies to religion and civil ord Scotland, Mr Thomas Muir, a barrister, and Mr I an Unitarian clergyman, were tried for seditic sentenced to various terms of banishment. named Skirving, Gerald, and Margarot, were in like manner by the Scottish criminal judg offences which could only be said to derive t racter ascribed to them from the temporary a dental circumstances of the nation. An atte inflict similar punishments upon the English ref was defeated by the acquittal of a shoemaker Hardy; but the party was nevertheless subjecte the apparent concurrence of a large and influen tion of the people, to many minor severities.

After alliances had been formed with the other hostile to France, the British ministers dispat army to the Netherlands, under the command king's second son, the Duke of York, to co-ope reducing the fortresses in possession of the I while the town of Toulon, being inclined to under the authority of the royal family, put its the hands of a British naval commander. At fi French seemed to fail somewhat in their defenc on a more ardently republican party acceding t under the direction of the famous Robespier national energies were much increased, and th of Brunswick experienced a series of disgrac verses. The Prussian government, having adopt views of the condition of France, now began t draw its troops, on the pretext of being unable them; and though Britain gave nearly a millio quarter sterling to induce this power to rema months longer upon the field, its co-operation no further service, and was soon altogether lo the 1st of June 1794, the French Brest fleet su a severe defeat from Lord Howe, with the loss ships; but the republican troops not only dro combined armies out of the Netherlands, but, advantage of an unusually hard frost, invaded H by the ice which covered the Rhine, and reduc country to a republic under their own control. successes of the British were limited to the abov victory, the temporary possession of Corsica and T the capture of several of the French colonies West Indies, and the spoliation of a great quan the commercial shipping of France; against were to be reckoned the expulsion of an army fr Netherlands, the loss of 10,000 men and 60,000 of arms in an unsuccessful descent upon the wes of France, some considerable losses of shipping, increase of annual expenditure from about four nearly forty millions.

In the course of the year 1795, the lower p of the community began to appear violently discon with the progress of the war, and to renew th mands for reform in the state. As the king was p (October 29) to open the session of Parliament, s was thrown into his coach, and the interference horse guards was required to protect his perso an infuriated mob. The ministers consequent tained acts for more effectually repressing seditio for the dispersion of political meetings. They w the same time compelled to make a show of yield the popular clamours for peace; and commenced gotiation with the French Directory, which was b off by the refusal of France to restore Belgi Austria. In the ensuing year, so far from any ad being made towards the subjugation of Franc northern states of Italy were overrun by its a and formed into what was called the Cisalpine Re The celebrated Napoleon Bonaparte made his firs spicuous appearance as the leader of this expe which terminated in Austria submitting to a hu ing peace. At the close of 1796, a French fleet for Ireland, with the design of revolutionising

untry, and detaching it from Britain; but its object as defeated by stress of weather. At this crisis, a new ttempt was made to negotiate with the French Republic; but as the events of the year had been decidedly favourable to France, a renewed demand of the ritish for the surrender of Belgium was looked upon s a proof that they were not sincere in their proposals, nd their agent was insultingly ordered to leave the rench territory. To add to the distresses of Britain, hile Austria was withdrawn from the number of her es, Spain, by a declaration of war in 1797, increased n no inconsiderable degree the immense force with hich she had to contend.

THREATENED INVASION.—SUBSEQUENT EVENTS.

For some time an invasion of Britain had been hreatened by France; and, sacred as the land had en for centuries from the touch of a foreign enemy, e successes of the republicans had hitherto so greatly nnulled all previous calculation, that the execution of eir design did not appear improbable. Just as the nterference of the neighbouring powers had, in 1792, used the energies of the French, so did this proposed asion stimulate the spirit of the British people. The murs of reformers, and of those who were friendly to ance, were now lost in an almost universal zeal for the fence of the country; and not only were volunteer ps every where formed, but the desire of prosecut- the war became nearly the ruling sentiment of the ion. The ministers, perceiving the advantage which s to be derived from the tendency of the national rit, appeared seriously to dread an invasion, and s produced an unexpected and very distressing re- t. The credit of the Bank of England was shaken; un was made upon it for gold in exchange for its es, which it could not meet. On the 25th of Febry 1797, therefore, the bank was obliged, with the ction of the privy-council, to suspend cash payts, that is, to refuse giving coin on demand for the per money which had been issued. This step led to great depreciation in the value of Bank of England es, and a very serious derangement of the currency sued for a number of years.

In April, a new alarm arose from the proceedings the seamen on board the Channel fleet, who mutinied r an advance of pay, and the redress of some alleged grievances. A convention of delegates from the various ips met in Lord Howe's cabin, and drew up petitions the House of Commons and the Board of Admiralty. pon these being yielded to, order was restored; but e seamen on board the fleet at the Nore soon after roke out in a much more alarming revolt; and, on e refusal of their demands, moored their vessels cross the Thames, threatening to cut off all communiation between London and the open sea. The reduction of this mutiny appeared at one time as if it could nly be effected by much bloodshed; but by the firmness of the government, and some skilful dealings with e seamen, a loyal party was formed, by whom the ore turbulent men were secured, and the vessels restored to their officers. The ringleaders, the chief of hom was a young man named Richard Parker, were ried and executed.

The same year was remarkable for several victories gained by the British fleets. A Spanish fleet of twenty-seven ships was attacked by fifteen vessels under Admiral Jervis (February 14), off Cape St Vincent, and completely beaten, with the loss of four large vessels. A fleet under Admiral Harvey, with a military force under Sir Ralph Abercromby, captured the island of Trinidad, a Spanish colony. In October, a Dutch fleet, under Admiral De Winter, was attacked off the village of Camperdown, upon their own coast, by Admiral Duncan, who, after a desperate battle, captured nine of the enemy's vessels. These naval successes compensated in some measure for the many land victories of the French, and served to sustain the spirit of the British nation under this unfortunate contest.

In 1798, the French overran and added to their dominions the ancient republic of Switzerland, which gave them a frontier contiguous to Austria, and enabled them eventually to act with increased readiness and force upon that country. In this year, the directors of the French republic, beginning to be afraid of the ambition of their general, Bonaparte, sent him at the head of an expedition to reduce and colonise Egypt, intending from that country to act against the British empire in the East Indies. The expedition was successful in its first object; but the fleet which had conveyed it was attacked in Aboukir Bay, by Admiral Nelson (August 1), and almost totally destroyed or captured. While so much of the strength of the French army was thus secluded in a distant country, the eastern powers of Europe thought they might safely recommence war with the republic. Austria, Naples, and Russia, formed a confederacy for this purpose; and Britain, to supply the necessary funds, submitted to the grievance of an income tax, amounting in general to ten per cent., in addition to all her previous burdens.

The new confederacy was so successful in 1799, as to redeem the greater part of Italy. A Russian army, under the famous Suwaroff, acted a prominent part in the campaign, but, in the end, attempting to expel the French from Switzerland, this large force was nearly cut to pieces in one of the defiles of that mountainous country. In August of the same year, Great Britain made a corresponding attempt to expel the French from Holland. Thirty-five thousand men, under the Duke of York, formed the military part of the expedition. The fleet was successful at the first in taking the Dutch ships; but the army, having landed under stress of weather at an unfavourable place for their operations, was obliged, after an abortive series of skirmishes, to make an agreement with the French, purchasing permission to go back to their country by the surrender of 8000 prisoners from England.

The reverses which France experienced in 1799, were generally attributed to the weakness of the Directory—a council of five, to which the executive had been intrusted. Bonaparte suddenly returned from his army in Egypt, and, by a skilful management of his popularity, overturned the Directory, and caused himself to be appointed the sole depositary of the executive power of the state, under the denomination of First Consul. He immediately wrote a letter to King George, making overtures of peace, but was answered, by the British secretary, that no dependence could be placed by Great Britain on any treaty with France, unless her government were again consolidated under the Bourbons. Bonaparte, having much reason to wish for peace, made a reply to this note, vindicating France from the charge brought against her, of having commenced a system of aggression inconsistent with the interests of other states, and asserting her right to choose her own government—a point, he said, that could not decently be contested by the minister of a crown which was held by no other tenure. But the British government was at this time too much elated by the expulsion of the French army from Italy, and the late changes in the executive, which, in their estimation, betokened weakness, to be immediately anxious for peace.

The events of 1800 were of a very different nature from what had been calculated upon in England. Sir Sidney Smith, who commanded the British forces in Syria, had made a treaty with the French army after it had been left by Bonaparte, whereby it was agreed that the French should abandon Egypt, and retire unmolested to their own country. The British government, in its present temper, refused to ratify this arrangement; and the consequence was a continuance of hostilities. The French overthrew a large Turkish army at Grand Cairo, and made themselves more effectually than ever the masters of the country, so that Britain was obliged to send an army next year, under Sir Ralph Abercromby, to accomplish, at an immense expense and a great waste of human life, what the French had formerly agreed to do. In Europe the presence of Bonaparte produced equally disastrous re-

sults. By one of his most dexterous movements, he eluded the Austrians, led an army over the Alps by the Great St Bernard into the Milanese, and, having gained a decisive victory at Marengo (June 14), at once restored the greater part of Italy to French domination. Contemporaneously with Napoleon's movements, Moreau led another army directly into Germany, overthrew the Austrians in several battles, and advanced to within seventeen leagues of Vienna. These reverses obliged Austria next year to make a peace, by which France became mistress of all Europe west of the Rhine and south of the Adige.

REBELLION IN IRELAND—UNION WITH GREAT BRITAIN.

Although the government had been able, in 1783, to procure a dissolution of the volunteer corps, the bulk of the Irish people continued to express the most anxious desire for such a reform in their parliament as might render it a more just representation of the popular voice. Unable to yield to them on this point, Mr Pitt endeavoured to appease them by extending their commercial privileges; but his wishes were frustrated, chiefly by the jealousy of the British merchants. A strong feeling of discontent, not only with the government, but with the British connexion, was thus engendered in Ireland.

The commencement of the revolutionary proceedings in France excited the wildest hopes of the Irish. Towards the close of the year 1791, they formed an association, under the title of the United Irishmen, comprehending persons of all religions, and designed to obtain "a complete reform of the legislature, founded on the principles of civil, political, and religious liberty." The government from the first suspected this association of meditating an overturn of the state, and took strong measures for keeping it in check. Acts were passed for putting down its meetings, and the secretary, Mr Hamilton Rowan, was tried, and sentenced to a fine and two years' imprisonment for what was termed a seditious libel. At the same time, some concessions to the popular spirit were deemed indispensable, and the Irish parliament accordingly passed acts enabling Catholics to intermarry with Protestants, to practise at the bar, and to educate their own children.

On discovering that a treasonable correspondence had been carried on with France by some leading persons in the society of United Irishmen, the government was so much alarmed as to send (1794) a Whig lord-lieutenant (Earl Fitzwilliam) to grant further concessions; but, ere any thing had been done, the ministers were persuaded by the Protestant party to return to their former policy. The patriotic party now despaired of effecting any improvement by peaceable means, and an extensive conspiracy was entered into for delivering up Ireland to the French republic. The scheme was managed by a directory of five persons, and though half a million of men were concerned in it, the most strict secrecy was preserved. In December 1796, a portion of the fleet which had been fitted out by the French to co-operate with the Irish patriots, landed at Bantry Bay; but measures for a rising of the people not being yet ripe, it was obliged to return. Next year, the losses at Camperdown crippled the naval resources of France, and prevented a renewal of the expedition. Losing all hope of French assistance, the conspirators resolved to act without it; but their designs were betrayed by one Reynolds; and three other members of the directory, Emmet, Macnevin, and Bond, were seized. Notwithstanding the precautionary measures which the government was thus enabled to take, the Union persisted in the design of rising on a fixed day. Lord Edward Fitzgerald, another of its leaders, was then arrested and, being wounded in a scuffle with his cap- soon after died in prison. On the 21st of May rd Castlereagh, secretary to the lord-lieutenant, he whole plan of insurrection, which had been mmence on the 23d.

hus thwarted in their designs, and deprived *t leaders, the* conspirators appeared in arms in various [illegible] untry. Parties attacl and Carlow, [illegible] ulsed with loss. A lar under a priest named [illegible]rphy, appeared in th of Wexford, and ton- [illegible]e city of that name insurrections about [illegible]same time broke ou northern counties of Antrim and Down, but we suppressed. In Wexford alone did the insurr pear in formidable strength. Under a prie Roche, a large party of them met and defeated of the government troops; but, on a second though they fought with resolution for four ho were compelled to retreat. Another defeat Ross exasperated them greatly, and some m cruelties were consequently practised upon t soners. On the 20th of June, their whole f collected upon Vinegar Hill, near Enniscorth an army of 13,000 men, with a proportionate artillery, was brought against them by Gener They were completely overthrown and dispers this time the rebellion languished, and in Ju so far ceased to be formidable, that an act of was passed in favour of all who had been en it, except the leaders.

On the 22d of August, when the rebellion h completely extinguished, 900 French, under Humbert, were landed at Killala, in the opp tremity of the country from that in which the in had shown the greatest strength. Though to be of any decisive effect, they gave some troub government. A much larger body of Britis under General Lake, met them at Castlebar, treated in a panic. They then advanced to th of the country, while the lord-lieutenant confi formidable reputation which their countrymen quired, by concentrating an immensely dispro force against them. On the 8th of Septemb were met at Carrick-on-Shannon by this lar to which they yielded themselves prisoners of

During the ensuing two years, the British exerted themselves to bring about an incor union of Ireland with Great Britain; a measure the Irish were almost universally opposed, bu by the use of bribes and government patron rally employed amongst the members of the Iri lature, was at length effected. From the 1st of 1801, the kingdom of Ireland formed an essen of the empire, on which was now conferred t of the United Kingdom of Great Britain and The act of union secured to the Irish most of t mercial privileges which they had so long sough a comparison of the aggregate exports and im the two countries, Ireland was to raise two revenue for every fifteen raised by Great Britai the first twenty years of the union, after wh regulations were to be made by Parliament hundred commoners were to be sent by Irelan British (now called the Imperial) Parliament, two for each county, two for each of the cities lin and Cork, one for the university, and one f of the thirty-one most considerable towns. Fo spiritual, by rotation of sessions, and twenty-eig temporal, elected for life by the Peers of Irela to sit in the House of Lords.

The Union, though upon the whole effected in of fairness towards Ireland, increased the disco the people, which broke out in 1803 in a new i tion. Under Robert Emmett and Thomas Ri conspiracy was formed for seizing the seat of t government, and for this purpose a great mult peasantry from the county of Kildare assemble 23) in Dublin. Disappointed in their attempt u castle, they could only raise a tumult in the str the course of which Lord Kilwarden, a judge, nephew, Mr Wolfe, were dragged from a carri killed. The mob was dispersed by soldiery, a mett and Russell, being seized, were tried and ex

CHANGE OF MINISTRY, AND PEACE OF AMIENS, 1

At the commencement of 1801, Britain had

this unexpected turn of fortune, but to reckon r enemies the whole of the northern states of which had found it necessary to place them- friendly footing with Bonaparte, and, though ot declare war against Britain, yet acted in anner as to render hostilities unavoidable. iled in March, with a large fleet for Copen- d proved so successful against the Danish reduce that country to a state of neutrality. of the Russian Emperor Paul, which took e same time, and the accession of Alexander, friendly to Britain, completely broke up the confederacy. Yet the great achievements of the continent, joined to the distresses of a hich at this time bore hard on the British oduced a desire for that peace which, a year ight have been gained upon better terms. ew, apparently, to save the honour of Mr Pitt riends, a new ministry was appointed under gton, by whom a peace was at length, in the e year (1801), concluded with France, which the state of aggrandisement which has just ribed.

r of the French Revolution placed Great Bri- session of a considerable number of islands ies in the East and West Indies and elsewhere; only two war ships had been lost on her had taken or destroyed 80 sail of the line, 181 nd 224 smaller ships belonging to the enemy, ith 743 privateers, 15 Dutch, and 76 Spanish he triumphs of the British fleets were indeed and splendid, and had the effect of keeping al commerce almost inviolate during the whole r, while that of France was nearly destroyed. s, however, hardly the most trifling instance by land; and the expenses of the contest enormous. Previously to 1793, the sup- lly voted by the House of Commons were 00; but those for 1801 were £42,197,000, ble the amount of the whole land-rent of the

WED WITH FRANCE, 1803.—SUBSEQUENT EVENTS.

only one of the results of the war against dependence, that France was led by the course to place herself under the control of her chief enius, Napoleon Bonaparte; a man singularly or concentrating and directing the energies try in the existing condition of France, but more by personal ambition than by any ex- ws of the good of his species. It was soon hat Bonaparte did not relish peace. By taking antage of several points left loose in the treaty, ed Great Britain to retaliate by retaining of Malta; and the war was accordingly re- d in May 1803. Britain immediately em- r superior naval force to seize the French a colonies; while France took possession of and excluded British commerce from Ham- Bonaparte collected an immense flotilla at for the avowed purpose of invading England; porous were the preparations made by the tish population, and so formidable the fleet d Nelson, that he never found it possible to sign in execution. In the year 1804, he was the dignity of Emperor of the French; and ce more exhibited the formalities of a court, t of the kind which the European sovereigns see established. In April of the same year, gton administration was exchanged for one d by Mr Pitt, and of which he formed the

, under the fostering influence of Great Bri- r coalition of European powers, consisting of weden, Austria, and Naples, was formed poleon. He, on the other hand, had drawn a his side, and was making great exertions ing with Britain the empire of the sea. A irty-three sail, partly French and partly Spanish, met a British fleet of twenty-seven, under Nelson, off Cape Trafalgar, October 25, 1805, and was completely beaten, though at the expense of the life of the British commander. Britain thus fixed permanently her dominion over the seas and coasts of the civilised world. At this time, however, Napoleon was asserting with equal success his supremacy over continental Europe. By a sudden, rapid, and unexpected movement, he conducted an army into Germany, where the Austrians were already making aggressions upon neutral territory. On the 17th October, he took the fortress of Ulm, with its artillery, magazines, and garrison of 30,000 men; a month after, he entered Vienna without resistance. He then pursued the royal family, and the allied armies of Russia and Austria, into Moravia; and, on the 2d of December, he gained the decisive victory of Austerlitz, which put an end to the coalition, and rendered him the dictator of the continent.

This series of events caused much gloom in the British councils, and with several other painful circumstances, among which was the impeachment of his colleague Lord Melville, for malpractices in the Admiralty, proved a death-blow to Mr Pitt, who expired on the 23d of January 1806, completely worn out with state business, at the early age of forty-seven, half of which time he had spent in the public service. Mr Pitt is universally allowed the praise of high talent and patriotism. But his policy has been a subject of dispute between the two great parties into which British society is divided. By the Tories it is firmly believed, that his entering into the war against the French republic was the means of saving the country from anarchy and ruin; by the Whigs, that this step only tended to postpone the settlement of the affairs of France, and loaded Britain with an enormous debt. Of the absence of all selfish views in Mr Pitt, there can be no doubt; for, so far from accumulating a fortune out of the public funds, he left some debts, which Parliament gratefully paid.

Mr Pitt's ministry was succeeded by one composed of Lord Grenville, Mr Fox, and their friends; it was comprehensively called Whig, although Lord Grenville was in every respect a Tory, except in his advocacy of the claims of the Catholics for emancipation. In the course of 1806, the new cabinet made an attempt to obtain a peace from France, which now threatened to bring the whole world to its feet. But the Grenville administration encountered serious difficulties from the king, who never could be induced to look with the least favour on the Catholic claims, or those who advocated them. Exhausted by his useless labours, Mr Fox died, September 13, 1806. Few names are more endeared to the British people than his, for, though the leader of the Whigs, he never excited any rancour in his opponents. He was remarkable for his frankness and simplicity. His abilities as a parliamentary orator and statesman were of the first order, and he was invariably the consistent and sincere friend of popular rights.

A new coalition, excluding Austria, but involving Prussia, had been subsidised by Britain, and was now preparing to act. With his usual decision, Napoleon led what he called his "Grand Army" by forced marches into Prussia; gained, on the 14th of October, the battles of Jena and Averstadt, which at once deprived that country of her army, her capital, and her fortresses; and then proclaimed the famous "Berlin Decrees," by which he declared Great Britain in a state of blockade, and shut the ports of Europe against her merchandise. The King of Prussia, Frederick William III., took refuge with his court in Russia, which now was the only continental power of any importance that remained unsubdued by France.

Towards that country Napoleon soon bent his steps, taking, as he went, assistance from Poland, which he promised to restore to independence. After a series of skirmishes and battles of lesser importance, he met the Russian army in great strength (June 14, 1807), at Friedland, and gave it a total overthrow. He might

now have easily reduced the whole country, as he had done Austria and Prussia; but he contented himself with forming a treaty (called the treaty of Tilsit, from the place where it was entered into), by which Russia agreed to become an ally of France, and entered into his views for the embarrassment of Britain by the exclusion of her commerce from the continental ports. France had thus, in the course of a few years, disarmed the whole of Europe, excepting Great Britain, an amount of military triumph for which there was no precedent in ancient or modern history.

The Grenville administration was displaced in spring 1807, in consequence of the difference between its members and the king on the subject of the Catholic claims, which had long been urged by the Whig party, with little support from the people. The next ministry was headed by the Duke of Portland, and included Lords Hawkesbury and Castlereagh (afterwards Earl of Liverpool and Marquis of Londonderry), and Mr Canning, as secretaries; Mr Spencer Perceval being chancellor of the exchequer. After being accustomed to the services of such men as Pitt and Fox, the people regarded this cabinet as one possessing comparatively little ability. One of its first acts was the dispatch of a naval armament to Copenhagen, to seize and bring away the Danish shipping, which was expected to be immediately employed in subserviency to the designs of France, and for the injury of Britain. The end of the expedition was easily gained; but it was the means of lowering the honour of Britain in the eyes of foreign states.

FIRST PENINSULAR CAMPAIGN.—SUBSEQUENT EVENTS.

The retaliation of France, for the interferences of other powers with its revolution, even supposing such retaliation justifiable, was now more than completed. Further measures could only appear as dictated by a desire of aggrandisement. But France was now given up to the direction of a military genius, who had other ends to serve than the defence of the country against foreign aggression or interference. The amazing successes of Napoleon had inspired him with the idea of universal empire; and so great was the influence he had acquired over the French, and so high their military spirit, that the attainment of his object seemed by no means impossible. There was a difference, however, between the opposition which he met with before this period, and that which he subsequently encountered. In the earlier periods of the war, the military operations of the European powers were chiefly dictated by views concerning the interests of governments, and in which the people at large felt little sympathy. Henceforth a more patriotic spirit rose every where against Napoleon: he was looked upon in England and elsewhere as the common enemy of humanity and of freedom; and every exertion made for the humiliation of France was animated by a sentiment of desperation, in which the governors and governed alike participated.

The Spanish peninsula was the first part of the prostrated continent where the people could be said to have taken a decidedly hostile part against Napoleon. He had there gone so far as to dethrone the reigning family, and give the crown to his elder brother Joseph. A sense of wrong and insult, mingled with religious fanaticism, raised the Spanish people in revolt against the French troops; and though their conduct was every where barbarous in the extreme, it was hailed in Britain as capable of being turned to account. In terms of a treaty entered into with a provisional government in Spain, a small army was landed, August 8, 1808, in Portugal, which had been recently taken possession of by the French. Sir Arthur Wellesley, who afterwards became so famous as Duke of Wellington, was the leader of this force. In an engagement at Vimeira, on the 21st, he repulsed the French, under Junot, who soon after agreed, by what was called the Convention of Cintra, to evacuate the country. Sir Arthur being recalled, the British army was led into Spain under the command of Sir John Moore; but this officer found the reinforcements poured in by Napoleon too great to be withstood, and accord in the end of December, he commenced a disa though well-conducted retreat towards the p Corunna, whither he was closely pursued by M Soult. The British army suffered, on this occ the severest hardships and losses, but did not rience a check in battle, or lose a single standar a battle which took place at Corunna, Janua 1809, for the purpose of protecting the embarka the troops, Sir John Moore was killed.

Much of the public attention was about thi engrossed by circumstances in the private life eldest son of the king. The Prince of Wales ha tempted, in 1796, by the prospect of having his debts paid by the nation, to marry the Princess line of Brunswick, for whom he entertained no tion. Almost ever since the marriage, he had the most marked disrespect for his consort, wh sequently, lived separate from him, and was l considered by many as deficient in her conduc matron.

In 1809, Austria was induced once more to mence war with France. Upwards of half a mil men were brought into the field, under the comm the Archduke Charles. Bonaparte, leaving Spai partatively open to attack, moved rapidly forwar Germany, and, by the victory of Echmuhl, open the way to Vienna, which surrendered to him. gaining a slight advantage at Essling, the ar came to a second decisive encounter at Wagram, the strength of Austria was completely brok pieces. The peace which succeeded was sealed marriage of Napoleon to Maria Louisa, daughter Emperor of Austria, for which purpose he di his former wife Josephine.

In the autumn of 1809, the British governme patched an armament of 100,000 men, for the p of securing a station which should command the gation of the Scheldt. The expedition was placed the command of the Earl of Chatham, elder bro Mr Pitt, a nobleman totally unacquainted with m affairs on such a scale. The army, having disem on the insalubrious island of Walcheren, was sw in thousands by disease. The survivors retur December without having done any thing towa object for which they set out. This tragical affair l the subject of inquiry in the House of Commons, by a majority of 272 against 232, vindicated the r in which the expedition had been managed.

SUCCESSES OF WELLINGTON IN SPAIN.

A new expedition in Spain was attended with success. Taking advantage of the absence of N in Austria, a considerable army was landed, A 1809, under the command of Sir Arthur We who immediately drove Soult out of Portugal, a made a rapid move upon Madrid. King Jose vanced with a considerable force under the co of Marshal Victor; and, on the 28th of July, a the British and Spanish troops in a strong pos Talavera. The contest was obstinate and sang and though the French did not retreat, the ad lay with the British. As this was almost the fi cess which Britain experienced by land in the of the war, Sir Arthur Wellesley became the t universal praise, and he was elevated to a p under the title of Viscount Wellington of T He was obliged immediately to fall back upon P where he occupied a strong position near Santa

Early in 1810, Napoleon reinforced the a Spain, and gave orders to Massena to "drive t tish out of the peninsula." Wellington posted hi on the heights of Busaco—eighty thousand in n including Portuguese—and there, on the 27th tember, was attacked by an equal number of Both British and Portuguese behaved well: the were repulsed with great loss, and, for the first the war, conceived a respectful notion of the troops. Wellington now retired to the lines of

though intended to be retaliatory, only increased the evil, no vessel belonging to a neutral power—such, for instance, as the United States—was permitted to carry goods to those ports, unless they should previously land and pay a duty in Britain. Thus the nation at once suffered from the shortsighted despotism of the French emperor, and from its own narrow and imperfect views of commerce; for, by embarrassing America, it only deprived itself of one of its best and almost sole remaining customers.

The power of Bonaparte, though sudden in its rise, might have been permanent, if managed with discretion. It was used, however, in such a way as to produce a powerful reaction throughout Europe in favour of those ancient institutions, which, twenty years before, had been threatened with ruin. The exclusion of British goods—a measure which he had dictated in resentment against England—proved the source of great distress, oppression, and hardship throughout the continent, and was greatly instrumental in exciting a spirit of hostility against him. The very circumstance of a foreign power domineering over their native princes, raised a feeling in favour of those personages, which, being identified with the cause of national independence, acted as a very powerful stimulant. On the other hand, a sense of the grasping ambition of Napoleon—of his hostility to real freedom—of his unscrupulousness in thrusting away the lives of his subjects for his own personal aggrandisement—had for some time been gaining ground in France itself.

In 1812, when the transactions in Spain had already somewhat impaired Napoleon's reputation, Alexander, Emperor of Russia, ventured upon a defiance of his decrees against British merchandise, and provoked him to a renewal of the war. With upwards of half a million of troops, appointed in the best manner, he set out for that remote country, determined to reduce it into perfect subjection. An unexpected accident defeated all his plans. The city of Moscow, after being possessed by the French troops in September, was destroyed by incendiaries, so that no shelter remained for them during the ensuing winter. Napoleon was obliged to retreat; but, overtaken by the direst inclemency of the season, his men perished by thousands in the snow. Of his splendid army, a mere skeleton regained central Europe. Returning almost alone to Paris, he contrived with great exertions to reinforce his army, though there was no replacing the veterans lost in Russia.

Early in 1813, he opened a campaign in northern Germany, where the Emperor of Russia, now joined by the King of Prussia and various minor powers, appeared in the open field against him. After various successes on both sides, an armistice was agreed to on the 1st of June, and Bonaparte was offered peace on condition of restoring only that part of his dominions which he had acquired since 1805. Inspired with an overweening confidence in his resources and military genius, he refused these terms, and lost all. In August, when the armistice was at an end, his father-in-law, the Emperor of Austria, joined the allies, whose forces now numbered 500,000 men, while an army of 300,000 was the largest which Napoleon could at present bring into the field. Henceforth he might be considered as overpowered by numbers. By steady though cautious movements, the allies advanced to France, driving him reluctantly before them, and increasing their own force as the various states became emancipated by their presence. At the close of 1813, they rested upon the frontiers of France, while Lord Wellington, after two successful campaigns in Spain, had advanced in like manner to the Pyrenees.

HOME AFFAIRS.—WAR WITH AMERICA.

Some changes had in the mean time taken place in the British administration. On the 11th of May 1812, the premier, Mr Perceval, was shot in the lobby of the House of Commons, by a man named Bellingham, whom some private losses had rendered insane. Lords Liverpool and Castlereagh then became the ministerial leaders.

in the two Houses of Parliament, but were quickly voted down by a majority of four, upon a motion made by Mr Stuart Wortley, afterwards Lord Wharncliffe. The ministry was finally rendered satisfactory to Parliament by the admission of Earl Harrowby as president of the council, Mr Vansittart as chancellor of the exchequer, and Lord Sidmouth (formerly premier while Mr Addington) as secretary for the home department; Lord Liverpool continuing as premier, and Lord Castlereagh as foreign and war secretary.

Notwithstanding the successes which were at this period brightening the prospects of Britain, the regent and his ministers did not enjoy much popularity. The regent himself did not possess those domestic virtues which are esteemed by the British people, and he had excited much disapprobation by the steps which he took for fixing a criminal charge upon his consort. The general discontents were increased by the effects of the orders in council, for prohibiting the commerce of neutral states. Vast multitudes of working people were thrown idle by the stagnation of manufactures, and manifested their feelings in commotion and riot. The middle classes expressed their dissatisfaction by clamours for Parliamentary reform.

At this unhappy crisis, provoked by the orders in council, as well as by a right assumed by British war-vessels to search for and impress English sailors on board the commercial shipping of the United States, that country (June 1812) declared war against Britain. Before the news had reached London, the orders had been revoked by the influence of Lord Liverpool; but the Americans, nevertheless, were too much incensed to retrace their steps. During the summer and autumn, several encounters took place between single American and British ships, in which the former were successful. It was not till June 1, 1813, when the Shannon and Chesapeake met on equal terms, that the British experienced any naval triumph in this war with a kindred people. On land, the Americans endeavoured to annoy the British by assaults upon Canada, but met with no decisive success. The British landed several expeditions on the coast of the States; and were successful at Washington, at Alexandria, and at one or two other points, but experienced a bloody and disastrous repulse at New Orleans. The war ended, December 1814, without settling any of the principles for which the Americans had taken up arms. But, while thus simply useless to America, it was seriously calamitous to Britain. The commerce with the States, which amounted in 1807 to twelve millions, was interrupted and nearly ruined by the orders in council, and the hostilities which they occasioned: henceforth America endeavoured to render herself commercially independent of Britain, by the encouragement of native manufactures —a policy not immediately advantageous, perhaps, to herself, but decidedly injurious to Great Britain. The fatal effects of the Berlin and Milan decrees to Napoleon, and of the orders in council to the interests of Britain, show how extremely dangerous it is for any government to interfere violently with the large commercial systems upon which the immediate interests of their subjects depend.

PEACE OF 1814.—SUBSEQUENT EVENTS.

At the close of 1813, it was evident that Bonaparte could hardly defend himself against the vast armaments collected on all hands against him. Early in 1814, having impressed almost every youth capable of bearing arms, he opposed the allies on the frontiers with a force much less numerous and worse disciplined. Even now he was offered peace, on condition that he should only retain France as it existed before the Revolution. But this proposition was too humiliating to his spirit to be accepted; and he entertained a hope that, at the worst, his father-in-law, the Emperor of Austria, would not permit him to be dethroned. Two months were spent in almost incessant conflict with the advancing allies, who, on the 30th of March, entered Paris in triumph; and, in the course of a few days, ratified a treaty with Napoleon, by which he agreed to resi government of France, and live for the future a sovereign of Elba, a small island in the Mediterr

In the measures for settling France, Great B concurred by her representative Lord Castlereag attended the allies during the campaign of 1814 peace was proclaimed in London on the 20th of France was deprived of all the acquisitions gaine under the republic and the empire, and restored rule of the ancient royal family in the person of XVIII. The Emperor of Russia and the K Prussia visited England in June, and were re with all the honours due to men who were cons as the liberators of Europe. Wellington, now c a duke, received a grant of L.400,000 from the of Commons, in addition to one of L.100,000 ously voted; and had the honour to receive i son the thanks of the house for his services. B sentatives from the European powers concerned war met at Vienna, October 2, in order to set disturbed limits of the various countries, and p against the renewal of a period of war so disa Throughout the whole arrangements, Great B acted with a disinterested magnanimity, which her great sufferings and expenses, could hardl been looked for, but was highly worthy of the ei name which she bore amidst European nations.

In March 1815, the proceedings of the co were interrupted by intelligence that Napoleo landed in France, and was advancing in triumph capital. He had been encouraged by various favo circumstances to attempt the recovery of his th and so unpopular had the new government alrea come, that, though he landed with only a few m was every where received with affection, and 20th of March, was reinstated in his capital, whi that morning been left by Louis XVIII. The sovereign had granted a charter to his people, by he and his successors were bound to rule under restrictions, and with a legislature composed chambers, somewhat resembling the British Ho Parliament. Bonaparte now came under simi gagements, and even submitted to take the votes nation for his restoration, on which occasion he million and a half of affirmative, against less tha a million of negative voices, the voting being per by ballot. His exertions to reorganise an arm successful to a degree which showed his extraor influence over the French nation. On the 1st o he had 559,000 effective men under arms, of 217,000 were ready to take the field.

A Prussian army of more than 100,000 men, Blucher, and one of about 80,000 British, Ge and Belgians, under Wellington, were quickly r voused in the Netherlands, while still larger arm Austrians and Russians, making the whole force a million, were rapidly approaching. These pr to make war, not on France, but against Bon alone, whom they denounced as having, by his of the treaty, "placed himself out of the pale o and social relations, and incurred the penalty o mary execution." Napoleon, knowing that his e would accumulate faster in proportion than h troops, crossed the frontier on the 14th of Jun 120,000 men, resolved to fight Blucher and Wel separately, if possible. The rapidity of his move prevented that concert between the Prussian an lish generals which it was their interest to est On the 16th, he beat Blucher at Ligny, and com him to retire. He had, at the same time, intru Marshal Ney the duty of cutting off all connex tween the two hostile armies. His policy, thou fully acted up to by his marshals, was so far succ that Blucher retired upon a point nearly a day's from Wellington.

After some further fighting next day, Na brought his whole forces to bear, on the 18th, a Wellington alone, who had drawn up his troops the road to Brussels, near a place called Waterlo

...sisted of a constant succession of attacks by ...French upon the British lines. These assaults were ...ded with great bloodshed, but nevertheless resisted ...the utmost fortitude, till the evening, when Blucher ...e up on the left flank of the British, and turned the ...e against the French, who had now to operate later, ...well as in front. The failure of a final charge ...Napoleon's reserve to produce any impression on ...his armies, decided the day against him; his baffled ...broken host retired before a furious charge of the ...an cavalry, who cut them down unmercifully. ...his return to Paris, Napoleon made an effort to ...ure the confidence of his chief counsellors, but in .... After a fruitless abdication in favour of his son, ...retired on board a small vessel at Rochfort, with the ...ame of proceeding to America; but being captured ...a British ship of war, he was condemned by his ...exultant enemies to perpetual confinement on the ...d of St Helena, in the Atlantic, where he died in ...

...is XVIII. was now restored, and the arrange...ts of the Congress at Vienna were completed. The ...ans of Great Britain during this last year of hos...ties exceeded seventy millions; and the national debt, ...ch in 1792 had been L.238,000,000, now amounted ...,000,000.

...ring the latter years of Napoleon, a reaction had ...n place throughout Europe against the innovatory ...ciples, which, by producing the French Revolution, ...been the cause, innocent or guilty, of so much ...ous warfare. Encouraged by this sentiment, the ...reigns of Austria, Prussia, and Russia, had no ...ner settled the new government of France, than they ...ed, September 26, 1815, into a personal league or ...for assisting each other on all occasions when any ...motion should take place among their respective ...ects. This treaty was composed in somewhat ob...e terms, and from its professing religion to be the ...proper guide "in the counsels of princes, in con...ating human institutions, and remedying their im...fections," it obtained the name of the Holy Alliance. ...as published at the end of the year, and communi...d to the Prince Regent of England, who approved ...at did not accede to it.

...e reaction had also its effect in Great Britain, in ...g the power of the aristocracy, which, by composing ...bulk of the Upper House, and influencing the elec...of a major part of the Lower, might be said to ...titute the government. The security of this pre...minating power was indicated by several acts in which ...r peculiar interests were consulted. In the preced...year, an act had been passed for prohibiting the ...rtation of grain from the continent, when the price ...his country should be less than eighty shillings per ...ter. An attempt to continue the income and pro...y taxes, which pressed with the greatest severity on ...wealthy and landed classes, was also negatived.

THE PRINCESS CHARLOTTE.—POPULAR TUMULTS.

...May 1816, the Princess Charlotte, only child of ...Prince Regent, was married to Prince Leopold of ...-Coburg, a young officer who had gained her affec...s when attending the allied sovereigns at the British ...rt. In November 1817, to the inexpressible grief ...he whole nation, the young princess died, immedi...y after having given birth to a dead son.

...August 1816, a British armament under Lord ...mouth bombarded Algiers, and reduced that pirati...state to certain desirable conditions respecting the ...ment of Christian prisoners.

...he year 1816, and the four following years, will ...ys be memorable as an epoch of extraordinary dis..., affecting almost every class of the community. ...liberation of European commerce at the end of the ..., produced a proportionate diminution of that trade ...ch England had previously enjoyed, through her ...usive possession of the seas. While all public bur...s continued at their former nominal amount, the ...es of every kind of produce, and of every kind of goods, had fallen far below the unnatural level to which a state of war and of paper money had raised them; and hence the expenses of the late contest, which had never been felt in the fictitious prosperity then prevalent, came to press with great severity upon the national resources, at a time when there was much less ability to bear the burden. To complete the misery of the country, the crop of 1816 fell far short of the usual quantity, and the price of bread was increased to an amount more than double what has since been the average rate.

Tumultuary proceedings took place in various parts of the country; and a desire for a reform in the House of Commons, which was supposed to be the only means of reducing the public expenditure, began to take deep root among the lower orders, and produced tumultuary excesses in the metropolis. The government then adopted expedients for counteracting the force of the popular spirit. They endeavoured to make it appear that an extensive conspiracy had been formed for the overthrow of the government. Of the four rioters charged with high treason, a conviction was obtained only against one. Such unanimity, however, prevailed between the ministry and the Parliament, that, at the close of February (1817), an act was passed for the suspension of the Habeas Corpus Act. Many persons were imprisoned, and detained for some time at the will of the ministers.

A temporary revival of prosperity occurred in 1818, but was quickly followed by renewed distress. In the autumn of 1819, the misery of the working classes had reached its greatest height, and still parliamentary reform was demanded as the only measure which could permanently improve their prospects. On the 12th of July, at a public meeting in the unrepresented town of Birmingham, an attorney was elected to proceed to Westminster, and openly claim to be received as a member of Parliament. On the 16th of August, a vast body of operatives assembled at Manchester, in an open space of ground called St Peter's Field, for a similar purpose, though professedly to petition for parliamentary reform. As they came in regular array, bearing banners with inscriptions, the magistrates professed to consider the meeting as dangerous to the public peace, and accordingly, ere the proceedings were far advanced, a body of troops, consisting chiefly of yeomanry, dashed into the mass, trampling down many persons of both sexes under the horses' feet, and killing and wounding others with their sabres. The meeting was dispersed by these means, and Messrs Hunt and Johnston, the principal orators, were apprehended. The tragic nature of this event, and its appearing as an invasion of the popular right of meeting for redress of grievances, produced some marks of public resentment; but the magistrates who conducted the attack received the immediate and cordial thanks of the government.

When Parliament reassembled in November, there was an evident increase of attachment to the ministry; and, in addition to the strong measures already taken for suppressing popular discontent, acts were passed to suppress unstamped political publications, to prevent secret training to arms, and to restrict the right of calling a public meeting to magistrates.

The year 1819 was remarkable, among other things, for the provision made, by act of Parliament, for the resumption of cash payments at the bank.

On the 20th of January 1820, George III. died at Windsor, in his eighty-second year, without having experienced any lucid interval since 1810. The Prince Regent was immediately proclaimed as GEORGE IV.; but there was no other change to mark the commencement of a new reign. A few days after the decease of George III., the Duke of Kent, his fourth son, died suddenly, leaving an infant daughter, Victoria, with a very near prospect to the throne.

MISCELLANEOUS CIRCUMSTANCES FROM 1790 TO 1820.

Owing to the superiority of Britain at sea, she was able to preserve her commerce during the war, while

that of France was comparatively ruined. This circumstance, combined with the remarkable effects of machinery in various manufactures, and the great improvements effected in agriculture, maintained the prosperity of the country during a contest which otherwise must have sunk her as low as it did Austria and Prussia. The value of the exports, which had been fifteen millions in 1760, and had only advanced to twenty in 1790, was, in 1802, *forty-six millions*.

This period is above all things memorable for the introduction of the use of steam in navigation. A model vessel, with a small steam-engine on board, was tried in 1788 by Mr Patrick Miller of Dalswinton in Dumfriesshire. Soon after, a vessel on a larger scale was exhibited in perfect action on the Forth and Clyde Canal. The idea fell asleep for a few years, but was revived by Mr Fulton, an American, who, in 1807, set agoing a steam-vessel on the Hudson River, the first in the world which was regularly employed in conveying passengers. In 1812, Mr Henry Bell of Helensburgh launched a similar vessel on the Clyde, being the first seen in Europe; and from that period steam-vessels quickly became numerous. Their superiority, in propelling vessels without regard to wind or tide, was in time universally acknowledged; and ultimately they have been used in voyages across large oceans.

In this period, considerable efforts were made for the more general education of the people. Sunday schools, first suggested by Mr Raikes of Gloucester, overspread the whole country, and proved the means of instructing many children who otherwise would have remained altogether ignorant. A plan of teaching great numbers of children, by employing the best pupils as monitors or assistants, was originated by Dr Bell and Mr Joseph Lancaster, and widely introduced. Two great societies were formed for the purpose of setting up and supporting schools in the districts where they were most needed. This period also beheld the rise of various societies, whose object it was to send missionaries to convert the heathen in distant lands, and to disseminate Bibles both at home and abroad. Great efforts were at the same time made in Britain to put an end to slavery in the West India colonies.

The latter part of the reign of George III. was also distinguished by great improvements in the dress and social condition of the people. Old fashions gradually disappeared, and the more simple and agreeable costume of the present day came into use. In the year 1750, cocked hats, wigs, swords, and buckles, were generally worn, and all gentlemen used hair powder. From the year 1790 to about 1800, these and many other oddities completely disappeared. Speedy travelling by stage-coaches, and the rapid transmission of letters by mail-carriages, became at the same time general in all parts of the United Kingdom.

At no period did a more brilliant class of literary men exist. Poetry assumed new and attractive forms in the works of Campbell, Moore, Southey, Wordsworth, Byron, and Scott. The novel or fictitious tale was advanced to a dignity it had never known before, in consequence of the production, by Sir Walter Scott, of a series of such compositions, in the highest degree dramatic and entertaining. In the Edinburgh and Quarterly Reviews, periodical criticism acquired an importance it never before possessed. At the same time, the more grave walks of divinity, history, and travels, were filled by a respectable body of writers. The name of Sir Humphry Davy stands pre-eminent in science, which was also cultivated with distinguished success by Wollaston, Leslie, Playfair, and Robison. In philosophical literature, the names of Dugald Stewart and Thomas Brown ask for peculiar respect.

REIGN OF GEORGE IV.

At the time when George IV. commenced his reign, the Manchester affair and the recent proceedings of the ministry, had inspired a small band of desperate men with the design of assassinating the ministers at a binet dinner, and thereafter attempting to set them-

s as ; ...visional government. On th
... 18... ... w ... surprised by the p
t ... ...l, after a desperate re
... ... hom one Thistlewood
... ...en were tried for hi
... and ex... ...rly about the same t
...mpt was made by the workmen in the west
l to bring about some alteration in the sta
... men were executed.

...n the accession of the king, his consort's n
...been omitted from the liturgy. This and othe
...nit es induced her to return from a voluntary
...y, June 1820, to the great embarrassmen
... ... and his ministers. Her majesty, who h
...been befriended by the Opposition, was receive
people with the warmest expressions of sy
Whatever had been blameable in her conduct w
looked on account of the greater licentiousnes
ascribed to her husband, and the persecution
she had suffered for twenty-four years. The ki
had established a system of observation rou
majesty during her absence from the country,
a bill of pains and penalties against her to be
(July 6) into the House of Lords, which thus
a court for her trial. Messrs Brougham and L
who afterwards attained high judicial stations,
counsel for her majesty, and displayed great d
and eloquence in her defence. The examin
witnesses occupied several weeks; and nothing
undone which might promise to confirm her n
guilt. But no evidence of criminality could so
indignation with which almost all classes of th
munity regarded this prosecution. Though
was read a second time by a majority of 28 in
of 216, and a third time by 108 against 99, the
ment considered it expedient to abandon it, lea
queen and her partisans triumphant.

In July 1821, the coronation of George IV. to
under circumstances of great splendour. On th
sion, the queen made an attempt to enter West
Abbey, for the purpose of witnessing the ceremo
was repelled by the military officers who guar
door; an insult which gave such a shock to her
as to cause her death in a few days. During the
of August, the king paid a visit to Ireland, w
was received with much cordiality by all classes
excitable people, notwithstanding his known
to the Catholic claims. In September, he pai
to the kingdom of Hanover. In August of the
year, he completed this series of visits by a vo
Scotland, where, owing to the novelty of the o
and the historical associations which it was the
of awakening, he was also received with extren
ness. During his absence in Scotland, his leadi
ster, the Marquis of Londonderry (formerl
Castlereagh) put an end to his own life, in conse
of a morbid sense of the difficulty of his positio
gard to continental affairs. The successor of th
quis of Londonderry in the direction of foreig
was Mr George Canning, who had quitted the
two years before on account of the prosecution
queen, and was at this time preparing to leave th
try as governor-general of India. Mr Cannin
statesman of enlightened and humane spirit, and
other popular qualities, possessed a rich and
style of parliamentary eloquence.

JOINT-STOCK MANIA.—COMMERCIAL EMBARRASSM

The two ensuing years were characterised by
traordinary activity in almost all departments
and commerce. Mr Huskisson, an able com
minister introduced by Mr Canning, originated
measures highly important; especially the repe
duties on goods passing between Great Brit
Ireland—an alteration in the duties affecting
manufacture—the repeal of the combination la
of the law against the emigration of artisans; w
executive formed commercial treaties, on the
city system, with various countries of Euro

...owledging the independence of the revolted Spanish ...ies in America, drew them as additional customers ... the British market.

...ital now so far exceeded the ordinary means of ...ployment, that many joint-stock companies were ...ed, as a means of giving it a wider range than that ...hich it was usually limited. Some of these associa... professed objects which were by long-established ... the proper business of individuals alone, and ...e fraudulent boundless and visionary projects, which ... to be carried into effect in remote countries. The ...ased state of trade in 1824 and 1825, had led to a ...ortionate importation and production of goods, and ... succeeded by an advance of prices in 1825. The ...quence was a sudden and unusually active demand, ... powerful reaction of supply, which did not cease ... productions had far exceeded the bounds of moderation.

Through the facilities afforded by large issues of ... money, the delusion was kept up longer than it ... otherwise have been. The first symptom of ...thing being wrong, was the turning of the exchange ...st England. A diminution of issues at the bank ...ued. Merchants began to feel a difficulty in ... pecuniary obligations. Then took place a run ... the banks, some of which, both in London and in ...ntry, were obliged to stop payment. Between ...ber 1825 and February 1826, fifty-nine commissions of bankruptcy were issued against English country ..., and four times the number of private compositions were calculated to take place during the same ...d. While the merchant and manufacturer were ...out credit, their inferiors were without employment, ...distress reached almost every class of the community.

Some liberal pecuniary measures on the part of ...k of England, helped in a short time, rather by ...ring confidence than by actual disbursement of ..., to retrieve, in some measure, the embarrassed ...mstances of the country.

SIR CANNING'S ADMINISTRATION.—CATHOLIC EMANCIPATION.

...e spring 1827, the illness of Lord Liverpool (followed soon after by his death) opened the way for Mr ...ning's promotion to the first place in the administration; an occasion, for various reasons of a ...onal as well as political character, the more uncompromising class of Tories resigned their places, leaving ...ns of government in the hands of a comparatively ...ular party. Mr Canning, however, sank under the ... had imposed upon him, and died in the ensuing ...mer. His friend Lord Goderich succeeded as premier; but resigned in January 1828, when the Duke ...Wellington was appointed in his place, with Mr ...rwards Sir) Robert Peel as secretary for the home ...rtment.

...rom the year 1805, the Catholic claims had been ...minent subject of parliamentary discussion, and ...e 1821 they had been sanctioned by a majority in ... House of Commons. Almost despairing of their ..., while left to the progress of mere opinion in the ...lish aristocracy, the Irish Catholics had in 1824 ...ed themselves in an association, with the scarcely ...ealed purpose of forcing their emancipation by ...ns of a terrifying exhibition of their physical ...gth. An act was quickly passed for the suppression of this powerful body; but it immediately reappeared in a new shape. In fact, the impatience of the ...olic population of Ireland under the disabilities ... degradation in which they were subjected on account of religion, was evidently becoming so very great, ... there could be little hope of either peace or public ...er in that country till their demands were conceded. ...ugh the English public lent little weight to the agitation, and the king was decidedly hostile to its object, ...olic emancipation rapidly acquired importance with ... classes, and in all parts of the empire. In spring ..., a kind of preparation was made for the concession, by the repeal of the test and corporation oaths, ...ch had been imposed in the reign of Charles II.

The ministry soon after received an alarming proof of the growing force of the question. Mr Vesey Fitzgerald had vacated his seat for the county of Clare, on becoming president of the board of trade. He was a friend to emancipation, and possessed great influence in the county; but he was also a member of an anti-Catholic administration. As an expedient for annoying the ministry, the Catholic Association, and all the local influences on that side, were set in motion to procure the return of Mr Daniel O'Connell, the most distinguished orator of the Catholic party. To the surprise of the nation, Mr O'Connell was returned by a great majority. It was even surmised that the laws for the exclusion of Catholics from Parliament would be unable to prevent him from taking his seat. The Duke of Wellington now began to see the necessity of taking steps towards a settlement of this agitating question; and the first, and most difficult, was to overcome the scruples of the sovereign. At the opening of the session of 1829, in consequence of a recommendation from the throne, bills were introduced by ministers for removing the civil disabilities of Catholics, and putting down the Catholic Association in Ireland; and, notwithstanding a great popular opposition, as well as the most powerful exertions of the elder and more rigid class of Tories, this measure was carried by a majority of 353 against 180 in the House of Commons, and 217 to 112 in the House of Lords.

REIGN OF WILLIAM IV.

The agitations respecting the Catholic Relief Bill had in some measure subsided, when, June 26, 1830, George IV. died of ossification of the vital organs, and was succeeded by his next brother, the Duke of Clarence, under the title of WILLIAM IV. About a month after, a great sensation was produced in Britain by a revolution which took place in France, the main line of the Bourbon family being expelled, and the crown conferred upon Louis-Philippe, Duke of Orleans. By this event, a great impulse was given to the reforming spirit in Britain, and the demands for an improvement in the parliamentary representation became very strong. The consequence was the retirement of the Wellington administration in November, and the formation of a Whig cabinet, headed by Earl Grey. The agitations of the time were much increased by a system of nocturnal fire-raising, which spread through the south of England, and caused the destruction of a vast quantity of agricultural produce and machinery.

The Whig ministry came into power upon an understanding that they were to introduce bills for parliamentary reform, with reference to the three divisions of the United Kingdom. These, when presented in March 1831, were found to propose very extensive changes, particularly the disfranchisement of boroughs of small population, for which the members were usually returned by private influence, and the extension of the right of voting in both boroughs and counties to the middle classes of society. The bills accordingly met with strong opposition from the Tory, now called the Conservative party. By a dissolution of Parliament, the ministry found such an accession of supporters as enabled them to carry the measure through the House of Commons with large majorities; but it encountered great difficulties in the House of Lords, and it was not till after a temporary resignation of the ministry, and some strong expressions of popular anxiety respecting reform, that the bills were allowed to become law.

During the few years which followed the passing of the Reform Bills, the attention of Parliament was chiefly occupied by a series of measures which a large portion of the public deemed necessary for improving the institutions of the country, and for other beneficial purposes. The most important of these, in a moral point of view, was the abolition of slavery in the colonies, the sum of twenty millions being paid to the owners of the negroes, as a compensation for resigning a right of property which had long been a disgrace to humanity. By this act, eight hundred thousand slaves were (August 1,

1834) placed in the condition of freemen, but subject to an apprenticeship to their masters for a few years.

In the same year, an act was passed for amending the laws for the support of the poor in England, which had long been a subject of general complaint. One of the chief provisions of the new enactment established a government commission for the superintendence of the local boards of management, which had latterly been ill conducted, and were now proposed to be reformed. The able-bodied poor were also deprived of the right which had been conferred upon them at the end of the eighteenth century, to compel parishes to support them, either by employment at a certain rate, or pecuniary aid to the same amount: they were now left no resource, failing employment, but that of entering poor-houses, where they were separated from their families. The contemplated results of this measure, were a reduction of the enormous burden of the poor-rates, which had latterly exceeded seven millions annually, and a check to the degradation which indiscriminate support was found to produce in the character of the labouring classes.

On the renewal of the charter of the East India Company in 1834, the government deprived it of its mercantile privileges, and extended the right of trading with China to the community at large. The ancient policy of not allowing Europeans to settle in Hindostan was also departed from, under some restrictions of inferior importance. Some reforms, equally advantageous to the public, were effected in the administration of the law, and in the privileges held by the Bank of England.

In 1833, a reform took place in the mode of electing the councils and magistracies of the Scottish boroughs. Instead of regulations which took their rise in an early age, and had been found productive of mismanagement, the parliamentary constituencies were empowered, in all except a few cases, to choose the requisite number of councillors, to whom then belonged the duty of appointing the requisite number out of their own body to act as magistrates. In 1835, the English municipal corporations were reformed, upon a principle similar to that applied to Scotland, except that the rate-payers and freemen were designed to form the electoral bodies, and that the councils in most cases were to consist of a greater number of members. A modified reform of the same kind took place in Ireland, by virtue of an act passed in 1840.

During the summer of 1834, the ministry endeavoured to carry through Parliament a bill to enable them to take unusual measures for restraining turbulence in Ireland. In consequence of a difficulty experienced in passing the measure, Lord Althorp and Earl Grey resigned their situations. The earl, who had now passed his seventieth year, was anxious for other reasons to retire from more active life, in order to spend the remainder of his days in the bosom of his family. He withdrew with the admiration of all parties, his whole career having been marked by consistency and sincerity. His place was supplied by Viscount Melbourne, and Lord Althorp was induced to resume office. The Irish Coercion Bill, with certain alterations, was then passed. On the 10th of October in this year, the two Houses of Parliament were burnt by accident.

In November, the death of Earl Spencer caused the advancement of his son Lord Althorp to the House of Peers, and the ministry was then left without a leader in the House of Commons. The king, who had for some time inclined to the Conservative party, took advantage of this circumstance to dissolve the cabinet. The Duke of Wellington was again called into office, and a messenger was dispatched to Italy to bring Sir Robert Peel home from that country, in order to accept the premiership. Sir Robert hastened to London, and on the 10th of December, the new ministry was constituted, chiefly of the individuals who lost office in Sir Robert, though sensible of the difficulty of public affairs at such a time, resolved to do so conciliate popular favour, by entering upon reforming measures. In a new House of mons, his party was strengthened by nearly a h new votes; but he was still in a minority. After ing forward a variety of measures of a reformi racter, being defeated on the question of devotin part of the Irish church revenues to education, compelled to resign (April 8, 1835), and allow th bourne ministry to be replaced.

In the session of 1836, the ministry were defea majorities in the House of Lords, in attempts t several important measures of reform, but suc in passing an act for commuting tithes in Engla a corn rent-charge payable in money; also in for enabling dissenters in England to be married wise than by the established clergy; and anothe general registry of births, deaths, and marriages. likewise reduced the stamp-duty on newspapers penny, by which the circulation of that class of cations was very largely increased. From this there was a marked diminution in the zeal whi for some years been manifested for changes in t tional institutions. Early in 1837, the ministry introduced into the House of Commons a bill f tling the Irish tithe question; but before this other measure of importance had been carried, t died of ossification of the vital organs (June 20), seventy-third year of his age, and seventh of his being succeeded by his niece, the Princess V who had just completed her eighteenth year. T ceased monarch is allowed to have been a consci and amiable man, not remarkable for ability, the same time free from all gross faults.

COMMENCEMENT OF THE REIGN OF QUEEN VICTOR

The commencement of the reign of Queen V has been marked by no signal events, and may [February 1841] be rather considered as a pe promise than of performance. Meanwhile, her r appears to have given unmixed satisfaction people by her marriage to Prince Albert of Cobourg, and the birth of a princess-royal.

MISCELLANEOUS CIRCUMSTANCES FROM 1820 TO 1

This period is remarkable for the great efforts were made to diffuse knowledge more generally a the people. *Mechanics' Institutions* were for most considerable towns, for the purpose of inst that class of the community in mechanical and science. Various periodical works were also set a for the purpose of communicating science and branches of instruction, in such forms as to be gible to the less educated classes. At the same considerable efforts were made to still farther education by means of ordinary schools. Among individuals who sought to promote these objec most conspicuous was Lord Brougham, who fil office of Lord Chancellor in the Grey administr

In this period, the national energies were turned towards the arts of peace, and accordin prosperity of the country made, upon the whole advances. Though agricultural produce had to bring the high prices it realised during the w farmers paid rents nearly equally high; and th were enabled to do in consequence of the soil been so much improved as to produce much crops. During this period steam navigation w mensely increased; ordinary roads were grea proved by the mode of paving invented by Mr Ma and railways began to overspread all parts of th try, for the conveyance of goods and passeng means of steam locomotive carriages, the commo of which is about thirty miles an hour. These stances form the fair side of the picture: on the we behold discontents pervading large sections working population, on account of the low w labour, and other real or imaginary grievances.

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CHAMBERS'S

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CONSTITUTION AND RESOURCES OF THE BRITISH EMPIRE.

...British Empire consists of the United Kingdom of ...eat Britain and Ireland (including a number of ...ller islands around their shores), and colonies and ...er dependencies in different quarters of the world. ...e most remarkable peculiarity in the political con... of the British empire, is the high degree of civil ...d religious liberty which all classes of subjects prac...lly enjoy. Slavery exists in no quarter of the ...itish dominions: personal freedom, with liberty to ...e and go, unquestioned and unimpeded, is assured ...ll, without respect of birth, rank, language, colour, ...religion.

Britain, while in population and some other respects ...passed by several other nations, possesses a degree ...wealth and political influence which may be said to ...se her at the head of all nations. This unprece...ented affluence and power appears to have taken its ...se in a fortunate concurrence of favouring circum...nces, some of a physical and others of a moral cha...acter.

The first of the physical causes in importance is un...estionably the insular situation, at once protecting ...e country from the destructive invasions which have ...much depressed and retarded many continental ...ons, and furnishing opportunities for a ready com...erce with all the shores of the civilised world. The ...cond of these causes is to be found in the natural fer...ity of a large portion of the United Kingdom, and ...e temperate climate enjoyed by it, favouring the pro...uction of the food necessary for a large population. ...e third cause is the large amount of the mineral wealth ...England, furnishing her with the means of prose...ting manufactures to an extent beyond all which the ...rld has ever before had experience of. Thus Britain ...s been naturally qualified to become the seat of a ...ge agricultural, manufacturing, and commercial na...n, and must always, from the nature of things, have ...ntinued to assume that character. Moral causes, it is ...e, might have been unfavourable. Had a branch ...f the Ethiopian or Mongolian races possessed the ...untry, its natural advantages would probably have ...remained unused. But the stock of the British popula...n chances to have sprung from the Teutonic branch ...f the Caucasian variety, a race who have in many ...ountries proved the superiority of their intellectual ...nd moral organisation. The idea of trial by jury, and ...f arranging public affairs by a representative body, ...pon at an early period by this race, show that it ...possesses a natural aptitude for forming improved poli...al institutions. Its concern in the most important ...odern inventions shows its ingenuity in the arts. Its ...aritime enterprise and mercantile intrepidity were ...splayed at a time when other nations were engaged ...ly in feudal broils. Planted in England in the fifth ...entury, and probably in Scotland many centuries be...re, we see this people making a continual advance ...ver since in political institutions and in the arts of peace. Historians point out the accidents which effected conspicuous changes; but, while the feebleness and wickedness of a John may have been the immediate cause of the Magna Charta, and the passion of Henry VIII. for a beautiful woman the proximate cause of the reformation of religion, there must have also been something in the people pressing them irresistibly towards liberty of person and of conscience, and enabling them to overcome all obstacles to the accomplishment of those objects. It was in the nature of the people to establish free institutions—and they were established. A people so active and so ingenious could not fail to take advantage of the natural facilities which they enjoyed for manufactures and commerce. They made the best of blades in the days of Cœur de Lion, and in the time of Elizabeth their sails whitened every neighbouring sea. Arts, driven out of other countries by ruthless bigotry, found refuge and flourished amongst a people who eagerly grasp at every kind of employment which promises to be useful. It is to their persevering industry, exercised by favour of so many natural circumstances, and constantly protected by free institutions, that we are mainly and most immediately to look for the source of the greatness of the British empire.

FORM OF THE BRITISH GOVERNMENT.

The government of the United Kingdom is constitutional, or possesses a regular form, in which the civil rights of all classes are acknowledged and guaranteed. The constitution is a monarchy, in which the sovereign accepts of his dignity under an express agreement to abide by certain prescribed forms of government according to the laws of the realm, and to maintain inviolate the Protestant religion, with all the rights and privileges of the church. The sovereign is the head or directing power in the executive of government, the fountain of all honours, and the watchful guardian of the interests of the state: he is held to be incapable of doing wrong; and if an unlawful act is done, the minister instrumental in that act is alone obnoxious to punishment. The legislative part of the government is composed of two deliberating bodies—the House of Lords and the House of Commons, both of which consist of individuals belonging to the United Kingdom only, the colonial dependencies of the empire having no share in the general management.

House of Lords.—The persons who compose the House of Lords form a separate class or rank, which is called collectively the Peerage, and whose members enjoy certain exclusive privileges and honours, which will be explained afterwards. The members of the House of Lords are either lords spiritual or temporal. The spiritual lords are archbishops and bishops, and hold their seats in virtue of their office; the temporal lords enjoy their seats from hereditary right, or in virtue of being elevated to the peerage. In 1837, at the meeting of the first Parliament of Queen Victoria, the number of

members of the House of Lords was 641; namely, 3 princes of the blood royal, 2 English archbishops, 21 dukes, 19 marquises, 112 earls, 19 viscounts, 24 English bishops, 6 Irish prelates, 193 barons, 16 representative peers of Scotland, and 28 representative peers of Ireland. The House of Lords is liable at all times to an increase of number by the elevation of commoners to the peerage; but this prerogative of the crown is sparingly used.

The House of Commons.—This body consists of 658 members; of whom 253 are chosen by counties, 6 by universities, and 399 by cities, boroughs, and towns. England returns 471, Wales 29, Ireland 105, and Scotland 53. The number of persons entitled to vote in the election of these members is probably about a million; of whom about 600,000 vote for county members, 5000 for representatives of universities, and 400,000 for members for cities, boroughs, and towns. The great bulk of the voters, as settled by the Reform Acts of 1832, is composed of the agricultural tenantry and the occupants of houses of L.10 of yearly rent; in other words, the middle classes. The operative classes, from their not in general inhabiting houses of such value, possess little direct influence in the election of members of the House of Commons. A House of Commons cannot legally exist for more than seven years; but, in reality, it rarely exists so long, the death of the sovereign, change of ministry, and other circumstances, causing a renewal on an average every three or four years. Reckoning from 1802 till November 15, 1837, there were thirteen Houses of Commons; as the thirteenth still exists (January 1841), we have an average of three years for each: those of longest duration were the fourth, from 1807 to 1812, and the fifth, from 1812 to 1818.

The Houses of Lords and Commons compose the *Parliament.* The Parliaments of England and Scotland were united in 1707, and then called the British Parliament. In 1800, the Irish Parliament merged in the British Parliament. The three kingdoms were first represented in one Parliament in 1801. Since that period it has been called the *Imperial Parliament*, and is always convened at Westmin-ter.

The two houses, with the sovereign, compose the three estates of the realm, or legislative body. The sovereign takes no personal concern in the proceedings of Parliament, further than opening or proroguing the sessions; but the interests of the crown in Parliament are intrusted to members of the cabinet council or ministry, and by them are defended and explained. The two houses, with the sovereign, have the power to pass laws, impose taxes, borrow money, make inquiries into the management of the public revenues, or the transactions of the great officers of government, and even to bring the latter to trial, if necessary. Members of either house inquire into the manner in which all great public institutions or boards of management are conducted, such as those for education, for purposes of charity, for the erection of lighthouses on the coast, for the construction of harbours, and generally, indeed, into all the business which is intrusted to the executive part of the government; they cannot direct what is to be done, but may always make scrutiny into it afterwards, if any error or mismanagement has taken place. The discussions on these subjects are often very warm and eager, and bring to light facts of great public importance. No act of the two deliberative bodies becomes valid as a law, without the assent of the sovereign; and all propositions relating to money to be raised for the public service, must originate with the House of Commons, the Lords merely giving their assent as a matter of form, without being allowed to alter any thing. This circumstance gives a much larger share of influence to the Commons than is possessed by the Lords; the former having it in their power, whenever they are dissatisfied with the measures of government, to stop the supplies of money, and bring the whole machinery to a stan-.

Each of the two houses has one presiding member, whose duty it is to preserve order and see t gulations of the assembly are attended to b bers; he is also the person through whom an cation passes between the house and the que having the privilege of addressing her maje of the house. Hence, in the House of Cor officer is called the *Speaker;* in the House is commonly known as the *Lord Chanc* another office which he holds; but the d latter are quite the same as those of the Spe Commons. There are numerous forms est the regularity of business in Parliament, b there are only a few which need be ment Any proposal which is laid before either of in order to pass into a law, must be made promoter *in the form* of an act of Parlian only known by the name of a *bill* while un sion: permission must first be obtained t the bill, and it must then be read and co the house three several times, besides being tinised more closely by a committee or sele of the members, and, if a public bill, by the sitting as a committee, when each member i to speak as frequently as he sees occasion, the regular sittings of the house no one is speak more than once, except to explain wh statements have been misunderstood. If it jected in any of these three readings, or g the committee, the bill is said to have passe then go through the same process in the o where it is sometimes adopted, sometimes re if any alterations are made on it here, th reported to the house where it first originat two cannot agree on the changes proposed, to the ground; but some modification is ger trived which satisfies both parties. It still obtain the sanction of the sovereign, whic ever refused, when the *bill* becomes an *act ment* or *law.*

The members of both houses have certa privileges, which are deemed necessary fo them properly to attend to their public Parliament, they enjoy absolute freedom and cannot be questioned out of the hou thing said in the debates; they and their s exempted from arrest (except in criminal ca their attendance in Parliament.

The Executive, as already stated, is repo hands of a sovereign. The dignity of the s hereditary in the family of Brunswick, r throne, and in the person of either a male A queen reigning, therefore, enjoys the s leges as a king. Besides enforcing the l realm, through the medium of courts of j a variety of functionaries, the sovereign with the office of levying taxes granted for service, and of defending the empire a abroad against foreign enemies. He, or reference to our present sovereign), also c intercourse with the rulers of other nation treaties and alliances, declaring war or peace. She has the duty of protecting the p trade of British subjects in foreign countries purpose, she has the sole appointment of who perform these duties; of judges in t courts of law; of officers in the army and public ambassadors, and of consuls at foreig the safety of trade; and of the officers wh taxes. She has also large forces, both nava tary, at her disposal, which are stationed i parts of the empire where she or her advisers they are wanted for the time. The task of m these extensive concerns, which would fall tion in the hands of one person, is deputed by to a number of persons, who are denominate *nisters*, and sometimes the *Cabinet.* These nally selected and appointed by the queen h as her choice would be in vain if it were to f who were disagreeable to Parliament (whic

...ause refuses to grant supplies for national busi-... the ministry is generally chosen from among such ... enjoy a considerable share of public confidence. ... have all some high state office. The chief is the *Lord of the Treasury*, whose nominal duty is the ...ving and issuing of the public money, while his ...l station is that of leader of the administration; ... the first who is appointed in any ministry, and ...rally selects all the other members, according to ...n views of their abilities, or of the influence they ...se in the country or in Parliament; and any ...es afterwards made are generally at his sugges-...e at least with his full assent. Next is the *Lord ... Chancellor*, who presides in the highest law-court ... kingdom, and is Speaker of the House of Lords; ... chief adviser of the sovereign in all that relates ... laws of the country, and has the disposal of a ... number of clerical and law offices. After him ...e principal secretaries of state, who are five in ...er, each having a separate charge; the first is ...tary for the Home Department, after whom are ...secretaries for Foreign Affairs and for the Colonies, ...secretary at War, and the Secretary for Ireland. ..., with the *Chancellor of the Exchequer*, and several ... of the high officers of state, form what is called ...*Ministry*, the *Cabinet Council*, or briefly the *Cabinet*; ...ll the measures of the executive government are ...d by their deliberations.

...e regular division of labour which is established ...e British government, is one of its chief excel-...; because every secretary, or other officer of ... having a particular department assigned to him, ...esponsibility for any error or mismanagement is ...ished at once, and may be either rectified or ...ded. Parliament itself has its duties; and when ... are not performed to the satisfaction of the elec-...the members can be dismissed at next election, to ...way for others who deserve better.

...e British constitution, thus slightly sketched, may ...enerally described as an anomaly in political ..., being both professedly and in reality a mix-...of all the three kinds of government—monarchical, ...ocratical, and democratical. Such a government ...d probably be found totally inapplicable in other ...es; but in Britain it answers well, having grown ... conformity with the views and character of the ..., and enjoying, in consequence of that conformity ...of its long existence, the respect required to enable ...system to work. Upon the whole, notwithstanding ...Reform Acts, the aristocratic principle predomi-..., yet fully as much from the spirit of the people ...selves, as from any forms of the constitution. An ...judiced foreigner would probably remark, that ...greatest drawback from its happy working now is, ...position in which it places the labouring portion of ...community.

FINANCES.

...venue.—The revenue of the British empire has va-...xceedingly of late years; from 1761 to 1774, which ...a period of peace, it increased from L.6,800,000 to ...,073; and since that time, from the various ...s in which the country was engaged, the immediate ...ses, and the interest of public debts, it has conti-... to augment till within these last ten or twelve ...s. From 1775 to 1783, which was the period of ...American war, it rose from ten millions to twelve ...ns; and during the peace which followed till 1793, ...e increased to seventeen and a half millions a-year. ...ter this period the French revolutionary war com-...ced. That war was by no means unpopular with ...ation; and it was besides gilded by the many ...dful victories which continued to be obtained by ...sh seamen as long as the enemy had a fleet to ...er at sea. Heavy taxes for defraying the expenses ...e war were therefore submitted to without remon-...ce, and the public revenue rose accordingly to a ...large amount. From 1794 to the peace of Amiens ...1, which only lasted two years, the revenue was increased from seventeen and a half millions to twenty-eight millions; and from 1803 till 1816, the year after the final conclusion of peace, it had risen to L.76,934,494, which was the largest sum raised by taxes in one year.

The sums thus raised in taxes, large as they were, did not, however, meet the expenditure of the country during these periods of war. In order to defray the great charges which arose, it became necessary also to borrow to a great amount. The following table will show the sums raised by the taxes, the sums borrowed, and the total expenditure for each of the years specified.

Year.	Raised in Taxes.	Borrowed.	Total Expenditure.
1794	L.17,674,355	L.5,079,971	L.22,754,366
1801	28,035,629	33,582,350	61,617,988
1805	36,401,736	25,972,742	62,378,480
1808	53,686,194	22,350,673	76,056,796
1810	66,929,349	22,763,202	89,792,551
1814	70,926,315	52,309,445	122,235,660
1815	72,834,494	54,471,464	130,305,958

These sums will appear altogether enormous, and must give the most extraordinary idea of the resources of a government, which, while it raised such a large yearly amount in taxes, had yet credit to borrow the immense additional sums which were wanted. The whole sum which was expended in the wars of the revolution, from 1794 to 1815, amounted to 1700 millions of pounds sterling—a sum so far beyond all ordinary dealings, that we can have little conception of its amount or value. All the mines that are at present wrought in Europe and America would not furnish gold and silver equal to it in less than 310 years.

The debt formed by borrowing money at different rates of interest to conduct the warlike operations of the country, has risen from small beginnings towards the conclusion of the seventeenth century, to an unparalleled amount. At the revolution of 1688, the national debt amounted to only L.664,263; at the accession of Queen Anne, L.16,394,702; of George I., L.54,145,363; of George II., L.52,092,235; at the end of the Spanish war in 1748, L.78,293,313; at the commencement of war in 1755, L.74,571,040; at conclusion of peace in 1762, L.146,682,644; at commencement of American war in 1776, L.135,583,031; at conclusion of peace in 1783, L.238,434,370; at commencement of French revolutionary war, L.238,733,009; at peace of Amiens in 1801, L.582,839,377; at peace of (Feb. 1) 1816, L.864,822,461; on the 5th of January 1832, L.782,667,234—interest, L.28,341,416. Since 1832, the debt has increased, chiefly by the funding of exchequer bills (adding floating obligations to funded stock), and in 1839, the amount was L.841,000,000, with an interest of L.29,000,000.

The revenue which it is necessary to raise for the purpose of paying the interest of the debt, and conducting the business of the country, is derived from taxation upon a great variety of different articles, which are all, however, reduced to the following heads:—

1. *The Customs.*—These are taxes levied upon the foreign commerce of the country, being the duties paid upon articles imported from abroad, such as tea, sugar, coffee, spirits, wines, tobacco, &c. They include also a few on some goods exported, such as coals, wool, and skins. Their whole amount, in the year ending October 10, 1840, was L.20,152,739.

2. *The Excise.*—The excise taxes are those which are levied on goods of British manufacture, such as glass, malt, paper, &c. The duty is paid back again to the maker, if the commodity is to be exported to foreign countries. This class of taxes yielded, in the above year, L.11,985,467.

3. *Stamp Duties.*—These consist of the prices affixed to stamped papers, upon which the law makes it imperative that every document for the transfer of property, or other obligation, shall be written. Deeds, settlements, and bills, bills of exchange, receipts (above a certain small amount), and a great variety of other instruments of business, are required to be stamped in this manner;

and the prices affixed to the stamps, which are often high, bring a large revenue. Under the head of stamps, are also included newspaper stamps, indentures, dice, duties on plate, and other anomalous items. The whole amounted in the above year to L.6,726,317.

4. *Direct Taxes.*—These are duties levied on land, on windows (eight or upwards), male servants, riding horses, dogs, use of armorial bearings, hair powder, &c. This class of taxes, which are levied by surveyors and collectors, amounted in the above year to L.3,744,372. The principal items are the land and window taxes, each of which was above a million.

5. *Post-Office.*—In the year ending October 1839, the revenue derived from the tax on letters passing through the post-office was L.2,390,764. But, by the reduction of postage to one penny per letter (if under half an ounce) at the beginning of 1840, the amount of revenue derived from this source in the year ending January 1840, was only L.441,000. The great advantage derived by the country from cheap postage more than compensates the deficiency.

6. The income derived from rentals of *crown property*, and the sale of timber, bark, &c., from the crown lands (with other incidents), yielded a revenue, in the year ending October 1840, of L.167,500.

7. *Miscellaneous.*—These include duties on hackney-coaches, hawkers' licenses, offices, pensions, &c.; and amounted to L.84,479.

8. Some *incidental revenues* are derived from matters connected with the regular taxes; such as duties collected at the Isle of Man, fines, and goods seized for taxes; these, with a number of other casual receipts, amounted, in the above year, to L.454,784. Besides this, there was a sum entitled *Repayments of Advances*, amounting to L.656,140.

The total annual income for the year ending October 1840, was L.44,665,798; and it will be observed that of that sum fully thirty-two millions were raised from customs and excise, or duties on foreign and British manufactures, and nearly seven millions on stamps. Thus, the great bulk of taxation is indirect, and the really direct taxes are a mere trifle in comparison. The chief burden of the taxes evidently falls on the consumers of tea, coffee, sugar, tobacco, soap, spirits, and wines, and these consumers are the great body of the people. As the land-tax amounts to no more than L.1,300,000 annually, proprietors of lands contribute but a small direct aid to the public income. The customs duties are levied on nearly 1700 articles imported into the country, but a few leading articles raise nineteen-twentieths of the entire amount, and the insignificant sum raised from the remainder acts merely as a prohibition on foreign commerce. The following were the duties levied on ten articles in the year ending January 5, 1840:—

1. Sugars and molasses,	L.4,826,917
2. Tea,	3,658,763
3. Spirits,	2,615,413
4. Wine,	1,849,308
5. Tobacco,	3,495,686
6. Coffee and cocoa,	794,818
7. Fruits of all kinds,	462,002
8. Timber and dye-woods,	1,668,584
9. Corn, grain, meal, and rice,	1,131,075
10. Provisions (including bacon, hams, butter, eggs, &c.),	368,560
Total amount,	L.20,871,126

On the following six articles, the duties levied in the year ending January 5, 1840, were as follows:—

1. Seeds of all kinds,	L.145,712
2. Oils of all kinds,	69,964
3. Spices of all kinds,	98,261
4. Hides and skins,	94,987
5. Tallow,	181,999
6. Wool (cotton and sheep's),	556,225
Carry forward,	L.1,147,148

Brought forward,	L.1,14
Which added to the duties levied on the ten articles in the preceding list, namely,	20,87
Gives a grand total on sixteen unmanufactured articles of	L.22,01
Balance received on 1136 minor articles,	94
Total net revenue,	L.22,96

Therefore the duty levied on all the remainin articles, including all raw materials and manufac goods, is L.55,674 less than one million. The re levied on manufactured articles was as follows:—

	Duty.	
Brass manufactures,	30 per cent.	L.
Boxes of all kinds,	20 ...	
Bugles,	1s. per lb.	
Earthenware, china, &c.,	15 to 20 per cent.	
Clocks and watches,	25 ...	
Copper, manufactures of	30 ...	
Cotton, manufactures of 10, and made up	20 ...	
Embroidery and needlework,	30 ...	
Flowers, artificial (not of silk),	25 ...	
Glass bottles, and all other sorts of glass,	30 to 120 ...	2
Hair and goat's wool, manufactures of	30 ...	
Hats of chip and straw,	20s. per dozen	
Leather gloves,	20 to 40 per cent.	1
Manufactures of leather, including shoes and boots,	30 ...	
Paper and paper-hangings, 3d. per lb., and 1s. per square yard, and hangings,		
Plaiting of chip and straw, 17s. to 20s. the lb.		1
Silk manufactures, various duties,	20 to 40 per cent.	24
Toys,	20 ...	
Cologne water, 1s. per flask, or 30s. the gallon,		
Woollen manufactures, 15 per cent. and made up 20 per cent.		2
Total duty levied,		L.40
On manufactures, except so much as is included in the L.80,760 received from the remaining enumerated tariffed and non-enumerated articles; say one-half on manufactures,		4
Total on manufactures,		L.44
Duty levied on raw materials, exclusive of cotton and wool, dye-woods, oils, tallow, seeds, hides, and skins,		50
Total duties levied on manufactures and minor raw materials,		L.94

The whole question of import duties, with refe to an improvement in the mode of levying them lately been considered by a committee of the Hou Commons: and it is likely that a very great alter will speedily be adopted, for it appears that the p bitive duties act injuriously on British manufact and induce foreigners, by way of retaliation, to ex our goods from their markets.

Expenditure.—The total annual revenue, as s mentioned, is at present between forty-four and f five millions, and we have now to see how this sum is spent. The first great item in the expend is in the form of interest on the national debt: i account rendered of the expenditure during the ending October 1840, the following statements are n —Amount applied to consolidated fund, L.31,836 amount applied as advances, and to pay off exch bills issued as advances, L.559,592; amount pa part of ways and means of year, L.12,270,118. difficult to obtain an exact idea of this compli statement; but we may be certain of the general that about L.31,000,000 are paid annually as inter

976,922, between 1815 and 1835. In 1835, the following statement was given of the number of persons employed in the chief departments of government, with amount of salaries:—

DEPARTMENTS.	No. of Persons.	Amount of Salaries.
Treasury, including Commissariat and Solicitor,	93	£36,340
Exchequer Offices,	14	7,005
Paymaster of Civil Services,	20	7,320
Privy-Council Office,	16	9,958
... ... for Trade,	29	11,231
Secretary of State—		
... Home Department,	30	13,678
... Foreign,	39	21,504
... Colonial,	31	20,457
India Board,	36	21,200
Privy-Seal Office,	1	2,000
Alien Office,	7	1,151
Register of Colonial Slaves' Office,	4	1,210
State-Paper Office,	8	1,573
Commander-in-Chief's Office,	21	7,167
Adjutant-General's Office,	22	3,070
Quartermaster-General's Office,	19	2,210
War Office, including Office for Military Boards,	84	32,042
Judge-Advocate-General's Office,	7	3,460
Army Medical Board Office,	5	2,050
Chaplain-General's Office,	2	276
Army Pay Office,	51	17,614
Ordnance Department,	996	159,120
Chelsea Hospital, including Secretary's Agents and Treasurer's Office,	157	25,599
Royal Military College,	80	...
Royal Military Asylum,	67	3,639
Admiralty and Naval Departments,	821	227,971
Customs Department, including Coast Guard,	11,602	940,763
Excise Department,	6,072	722,436
Stamps and Taxes ditto,	660	106,347
Post-Office,	1,774	124,439
Mint Office,	30	10,110
Audit Office, and other Offices transferred to that Department,	130	39,050
National Debt Office,	31	8,717
Exchequer Bill Office,	11	3,610
Woods, Forests, Land-Revenue, and Public Works Office,	60	13,445
Stationery Office,	34	5,070
Alienation Office,	7	300
Lottery Office,	...	...
Exchequer and other Departments in Scotland,	296	94,732
IRELAND.		
Chief Secretary's Office,	38	14,556
Chief Secretary's Office in London,	8	2,410
Privy-Council Office,	7	2,575
Vice-Treasurer's Office, late Irish Treasury, &c.,	13	4,964
Tellers' Office, Exchequer,	5	1,680
Privy-Seal Office,	2	100
Office of Public Works,	19	5,096
Office of Lieutenant-General Commanding,	6	1,066
Army Medical Office,	3	1,044
Quartermaster-General's Office,	6	684
Deputy Judge Advocate-General's Office,	1	597
Provost Marshal-General's Office,	1	153
Adjutant-General's Office,	9	1,018
Commissariat Department,	12	2,248
Royal Hospital, Kilmainham,	54	3,136
Board of Charitable Donations,	1	184
Board of Education,	25	4,756
	23,578	£3,193,378

The expenses incurred for the colonies were lately L.2,606,483 per annum, but this included the outlay in the military and naval departments; and the annual expenses for ambassadors and consuls in foreign countries was L.264,616, and for courts of justice nearly L.800,000. Altogether, the *civil* management of the United Kingdom costs about L.4,000,000, or but a tenth of the entire expenditure.

THE ARMY AND NAVY.

The Army.—According to the terms of the constitution, a permanent or standing army is not held to be legal. It is understood that the civil power, as exerted by magistrates, constables, and police, is competent to preserve order, and that the creation of a military force is only a matter of temporary necessity. An army, however, being constantly required both to assist the civil authority, and to protect the foreign possessions of the empire, an act of parliament, called the Mutiny Act, is passed annually, to maintain a large body of troops in regular service. Whether from this provision in the constitution or otherwise, it happens that education in military tactics is conducted on a very limited scale: the privates in the army are enlisted by small bounties from the lowest classes of the community, and very rarely, if ever, are promoted to the rank of commissioned officers. The commissioned officers, in general, belong to the aristocracy or landed gentry, and in most instances purchase their commission according to a scale of prices. Although both privates and officers are alike ill-prepared, by previous instruction, for performing the duties of their profession, such are the effects of discipline, the excellence of equipment, and other advantages, but, above all, a high tone of honour and spirit of valour, that the British army is found able to compete with forces recruited under far more favourable circumstances.

The army at present (1841) consists of the following numbers and descriptions of force:—

	Horses.	Men.	Officers and non-commissioned officers.	Expense—pay, clothing, &c.
Cavalry.				
Guards, 3 regts.	822	1,053	258	L.67,102
Line, 23 regts.	7,696	8,578	1,578	466,372
Infantry.				
Guards, 3 regts.	..	4,640	613	192,079
Line, 99 regts.	200	81,407	10,948	2,781,365
	8,718	95,678	13,397	L.3,526,918

To the account of expense mentioned above, there is to be added L.466,237 for recruiting, for depôts of regiments at Chatham, Maidstone, &c., and for other charges. There is also what is called the civil department of the army, or the army management, consisting of the salary of the secretary-at-war and his office, the commander-in-chief and his office, the medical departments, &c. By an act passed in the reign of George IV., a sum of L.60,000 is paid into the exchequer by the East India Company, on account of the charge for retiring pay and pensions, and other expenses of that nature, arising in respect of the forces serving in India. This sum is applied towards the general expenses of the state. The pay of a private in the horse guards varies from 1s. 9½d. to 2s. 0½d. per day; in the cavalry of the line, 1s. 4d.; in the foot guards, 1s. 2d.; and in the infantry of the line, 1s. 1d. When at home and in barracks, 6d. a-day is deducted from this, for which the soldier receives three quarters of a pound of meat and one pound of bread. The principal part of his clothes and accoutrements is furnished at the public expense; his pay, however, is subject to a deduction of 2s. 7¼d. a-week, in the case of privates serving in the cavalry; 1s. 1d. a-week from privates in the foot guards, and 1s. 6d. from all other privates, on account of these articles.

Besides the cavalry and foot regiments, there is another description of force called the ordnance, which includes artillery, engineers, miners, &c. They have *management of fortifications*, with their guns, stores, &c., the making of rockets, and differ of shot for great guns. There are 827 offic gentlemen cadets employed in this service, a men. These, with equipments, cost about L.1 annually.

Of the British army, 89,351 are employed and in the colonies, and 20,467 in the East In

The statements which we have made abo entirely to the effective force of the army, either on active duty or ready to be so c But, as we have already remarked under the Expenditure, there are a great number of pe tached to the army who do no duty, though r pay like others. Some of these are pension have either been long in service, or have su wounds, &c.

The Navy.—Great Britain has long been r as a first-rate naval power: by command of vessels it protects its commerce, and exerts it rity in the most remote quarters of the glob usual to say that Britain possesses the "dom the seas;" but this is only a figure of speec nation possesses no acquired or vested sovereig the ocean, acknowledged by other powers, alt times it may forcibly compel submission. Th royal navy is recruited in much the same m the army; but the constitution, by a singular sanctions the forcible abduction of men fro private homes to serve on board of war vessel species of impressment, however, is only res in cases of urgent necessity, as for instance, du heat of war. The sailors who enlist are g young men who have served an apprenticeship merchant vessels; and with this preparation, t seamen of the highest qualifications; their integrity, and kind-heartedness, are a lasting national gratulation. The following statemen an idea of the present extent of, and expenditu the royal navy:—

Wages of 34,465 sailors and marines,	- - -
Victuals for do.,	- - - - -
Dockyards for building and repairing ships, including naval stores,	- - - - - -
Wages to artificers in the establishments at home and abroad,	- - - - -
Establishments at home and abroad,	- - -
Miscellaneous,	- - - - -
Admiralty office,	- - - - - -
	-
	I

Besides the above, there is another expense in the navy accounts, such as the conveyance o half-pay to officers, pensions, &c., and which to L.1,488,221.

The average pay of a sailor is L.2, 7s. per with victuals, which are estimated at about additional. Much complaint is made of the hi ries paid to people about the dockyards; the workmen receiving L.250 per annum, and the s from 5s. to 12s. 6d. per day. During the w France, Great Britain had upwards of 100 manned by 184,000 seamen.

In 1835 there were in commission 1 first-rate decker), a ship whose war complement exce men; 3 second-rate, war complement above third-rate, war complement above 600; 8 fou war complement above 400; 6 fifth-rate, war ment above 250; 13 sixth-rate, complement bel and 136 smaller vessels. In ordinary, 14 fi 16 second-rate; 50 third-rate; 14 fourth-rate; rate; 13 sixth-rate; and 89 small vessels; in vessels. This does not include smaller vessels, yachts, cutters, transports, &c., which amoun tween 200 and 300 more. We give the list of preference to that for 1840, as the navy in th year was much greater than it is probable it tinue at. At present there are 234 of all k vessels in commission, and 43,000 sailors and employed in the naval service.

yled "Primate of England;" and the Archbishop of anterbury, who ranks next to the royal family, is yled "Primate of all England." The other dignitaries f the church are archdeacons, deans, and prebendaries; he inferior clergy are rectors, vicars, and curates. trictly, there are only three grades, bishops, priests, nd deacons, all clergymen belonging to one of these. he bishops are entitled to be addressed as "my lord," nd are legally spiritual peers. The revenues exigible y law for the support of the church are most unequally distributed, and the dioceses are of very unequal roportions. The same may be said of the working lergy, some of whom have wealthy and others very oor benefices; and some enjoy several benefices, while urates or assistants are paid on the meanest scale. The ollowing table, extracted from a parliamentary paper, hows the number of benefices or livings, parishes, hurches and chapels, with the population, in 1831:—

Diocese.	Number of Benefices.	Number of Parishes.	Churches and Chapels.	Population.
Asaph, - - - -	160	120	143	291,158
Bangor, - - - -	131	179	192	182,772
Bath and Wells, -	440	479	483	461,235
Bristol, - - - -	255	288	306	238,998
Canterbury, - - -	343	369	374	446,474
Carlisle, - - - -	128	109	129	133,982
Chester, - - - -	616	530	634	3,991,308
Chichester, - - -	276	295	303	254,460
St David, - - - -	451	525	561	349,441
Durham, - - - - -	178	149	214	460,833
Ely, - - - - - -	158	156	161	153,782
Exeter, - - - -	647	631	711	720,448
Gloucester, - - -	283	286	330	345,319
Hereford, - - - -	340	342	360	297,367
Llandaff, - - -	194	221	229	181,244
Lichfield and Coventry, - - - - -	685	656	958	1,463,681
Lincoln, - - - -	1,479	1,570	1,577	800,978
London, - - - -	577	630	682	1,722,103
Norwich, - - - -	1,076	1,178	1,228	620,139
Oxford, - - - -	280	257	257	146,700
Peterborough, - -	265	235	329	194,510
Rochester, - - -	93	107	111	191,579
Salisbury, - - -	408	451	474	391,683
Winchester, - - -	382	403	464	729,697
Worcester, - - -	222	230	260	271,697
York, - - - - -	828	741	870	1,491,533
Total, - - -	10,853	11,077	11,885	13,897,197

In 1831, on an average of the previous three years, he revenues of the archbishops and bishops amounted n the aggregate to L.160,292 per annum, and are now believed to be about L.150,000. The largest incomes were those of the Archbishop of Canterbury, L.19,182; Bishop of Durham, L.19,066; Archbishop of York, L.12,629; Bishop of London, L.13,929; Bishop of Winchester, L.11,151; and Bishop of Ely, L.11,105: the others were from about L.1500 to L.5000. The greater part of these revenues are derived from lands, or rents for grounds let on leases, and for which fines are taken on entry. The chapters of cathedrals, composed of deans, canons, and prebends, possess also large revenues, the dean of Durham, for instance, having L.4800 a-year, and other members of the chapter, L.32,160. In 1834, the gross revenues of the deans and chapters amounted to upwards of L.235,000. The revenues of the inferior or parochial clergy are derived from tithes commuted into money payments, and also fees at celebrating marriages, baptisms, and funerals. With respect to the parochial branch of church emoluments, we extract the following from Mr M'Culloch's Statistical Account, 1837:—"It appears that of 10,478 benefices, from which returns have been received, 297 are under L.50 a-year; 1629 are between L.50 and L.100 a-year; and 1602 are between L.100 and L.150; so that there are 1926 benefices under L.100 a-year, and 3528, or more than a third of all the benefices in the country, under L.150 a-year. On many of these benefices there are no glebe houses, nor do they possess the means of erecting any. Were the spiritual duties of the poorest of these livings not performed by the

clergymen of the neighbouring parishes, it is difficult to see how they could be performed at all." Curates are paid by the rectors or vicars, whose servants they are: by law their salary cannot be under L.80—the average is L.81.

The total revenues of the church may be stated in general terms as follow:—

Archbishops and bishops, - -	L.150,000
Cathedral and collegiate churches, -	250,000
Deans and other functionaries, -	60,000
10,540 parochial benefices, - -	3,100,000
Curates of resident clergy, - -	87,000
Curates of non-resident clergy, - -	337,000
	L.3,984,000

A proposal to introduce a greater equality into ecclesiastical salaries has for some time engaged the consideration of ecclesiastical commissioners; and lately an act of Parliament was passed appropriating revenues from certain sinecure offices in cathedrals, as they become vacant, to increase the incomes of the poorer class of parochial incumbents.

The appointment of the clergy to benefices is as follow:—Presented by the crown, 952; by archbishops and bishops, 1248; by deans, chapters, and ecclesiastical corporations, 2638; by universities, colleges, and hospitals, 721; by private individuals, 5096; and by municipal corporations, 53. This, says M'Culloch, is not exactly correct, there being upwards of 200 omitted in the returns.

In 1831, the total number of congregations belonging to the established church was 11,825. At the same time there were the following number of congregations of dissenters:—Roman Catholics, 416; Presbyterians, 197; Independents, 1840; Baptists, 1201, Calvinistic Methodists, 427; Wesleyan Methodists, 2818; other Methodists, 666; Quakers, 396; Home Missionary congregations, 453; total of dissenting congregations (exclusive of Jews), 8414. It is considered probable that this number includes as many actual worshippers as the 11,825 congregations of the establishment, or about 4,000,000. Thus, reckoning dissenters and members of the established church at 8,000,000, about 6,000,000 remain who cannot be said distinctly to attend any place of public worship, though in most instances nominally belonging to the established church.

Church of Ireland.—In Ireland, the established religion is the Protestant Episcopacy, of which another branch is established in England. Thus the same doctrines, ritual, and forms of ecclesiastical government, exist in these two countries, the hierarchies only being different with respect to their political status. At present, considerable alterations are in the course of being carried into effect with regard to the higher orders of the Irish clergy and their dioceses. Hitherto there have been four archbishoprics—Armagh, Dublin, Cashel, and Tuam, with thirty-two dioceses consolidated under eighteen bishops. When the new arrangement is carried fully into effect, by the demise of certain functionaries, there will be only two archbishops, those of Armagh and Dublin, and ten bishops. The Archbishop of Armagh is styled "Primate and Metropolitan of all Ireland;" and the Archbishop of Dublin is styled "Primate and Metropolitan of Ireland." There have hitherto been 33 deans and 30 chapters of cathedrals. The number of parishes, including perpetual curacies, is (or was lately) 2405, but many have no church, and the number of incumbents for the whole is 1385. According to the proposed arrangements, the money saved by the extinction of higher offices is to be appropriated to sustain churches and glebe-houses in parishes, and to execute other necessary purposes.

The revenues of the archbishops and bishops, in 1831, amounted to L.151,128 annually; and the total income of the church, including value of glebe-lands and tithes, was L.865,535. (*Parliamentary paper.*) The tithes of most parishes have since been compounded M'Culloch estimates the amount of composi- all the parishes at L.704,313, 15s.

The Roman Catholic church in Ireland co four archbishoprics and twenty-three bishop parochial divisions and a body of clergy simila plan of the establishment; to it also belongs a c able number of monasteries. After the Roman body, the chief dissenting communion is the Presbyterians, in the northern parts of the The following table, drawn up by properly a commissioners, shows the state of religious pa Ireland in 1834:—

PROVINCES	Members Estab. Church.	Roman Catholics.	Presby-terians.	Other Protest. Dissent.
Armagh, -	817,722	1,855,123	626,073	15,883
Dublin, -	177,930	1,053,681	2,217	3,162
Cashel, -	111,813	2,230,340	268	2,454
Tuam, -	44,588	1,188,588	809	289
Total,	852,054	6,427,712	642,366	21,883

According to law, two days throughout the y clusive of Sundays, are set apart as holidays, c from labour, in England and Ireland, namely mas and Good Friday.

Church of Scotland.—Protestant Presbyte according to a polity introduced from Geneva l was established in Scotland, by act of Parlia 1560, a few years after the previous Roman church had been completely dismembered a pressed. The history of the country dese struggles of this form of church government w copacy during the greater part of the sev century. Shortly after the revolution, an act o ment of William and Mary, in 1690, re-est Presbytery on the model of a statute of 15 cording to the plan thus established, and nev wards materially altered, the clergy of the C Scotland are all equal in rank, and are officia sters of parishes. To the church belongs a lay functionaries called elders, each church several, who assist the clergyman at the com visit the sick, and generally act as a vigilant e tical police. This incorporation of laity with th has given it a remarkably secure footing in t tions of the people. The ecclesiastical comm governed by a series of courts—the lowest b kirk-session in every parish, composed of the and elders; the next is a court composed of th of a division, called a presbytery, and an el each parish; the next is a synodal court, com functionaries from an aggregation of presbyter the highest is the General Assembly, composed gates from the presbyteries, and which meets at Edinburgh. Constant residence in their pa obligatory on the clergy.

A few years ago, before recent alterations of legality, there were in Scotland 80 presbyteri parishes, and 1050 ministers, some churches two clergymen. The church has lately includ sters of chapels of ease in its judicatories; and i ultimately sanctioned as lawful, the above nu clergymen will be considerably increased. Ne entire body of clergy (ministers of chapels of *quoad sacra* parishes, not included) are appo lay patrons, or by the crown, in virtue of a Parliament in 1711–12, reviving ancient righ General Assembly, in 1834, passed an act, called the *Veto Act*, giving male communicants, families, the right of objecting to the appointm patrons; but this has been declared illegal by courts, as interfering with the private pro patrons (the advowsons being saleable), and t tion remains in a doubtful and precarious state (1841).

The parochial clergy are supported by money levied from the heritors or landowners, on the of commuted tithes or teinds. The amount of yearly, depends on the average market value the averages being called *fiars*, which are struck

ry in every county. Each minister being entitled
rtain quantity of grain, the value of the quantity,
ing to the fiars, is paid in money. If the tends
lands of the heritors be not all uplifted, the
is liable to be increased at the end of every
years. In 1836, the gross amount of teinds
the clergy annually was L.146,942, and the
s left unappropriated in the hands of private
ds was L.136,186. It is not stated by any
rity we have consulted, what unappropriated
are in the hands of the crown; but it appears
here are bishops' teinds (formerly revenues of
s), amounting to L.16,741 annually, of which a
is drawn by the crown, and L.10,182 unappro-
d. The total income of the church, including
e glebes and manses, is calculated at L.274,620,
an average of L.256 each. In some parishes,
legible stipend is so small, that it is made up to a
m of L.150 by government. Among the largest
es are those paid to the eighteen parish ministers
nburgh, who receive about L.500 each, levied by
ular law as a money-tax from the inhabitants.
xpenses incurred for building and maintaining the
s of the churches and manses, is defrayed by the
es along with the stipends.

Scotland, no secular days, such as Christmas and
Friday, are legally set apart as holidays, the
sh church recognising no saint's days or holidays
ever. But in each parish there are one or two
ys in the year, previous to the celebration of the
munion.

land abounds in dissenters, the bulk of whom
ly separatists from the church, and, under va-
names, possess the same doctrines and formula.
e these dissenters, there is a considerable body
rotestant Episcopalians, in communion with the
h of England; also Roman Catholics and Inde-
nts. The number of congregations belonging to
Established Church, and various dissenting bodies,
be summed up as follows:—Established Church,
; United Associate Synod, or Secession Church,
other Presbyterians, 350; Independents, 100;
opalians, 60; other Protestant sects, 40; Roman
ics, 60; total, 1630.

EDUCATION.

gland.—England is almost the only country in
e in which there is no public or general system
mentary education. For the instruction of her
y and gentry, she has several great public classi-
hools, among which are those of Winchester,
minster, and Eton, and also two great univer-
Oxford and Cambridge; but she has no national
lishment, like those which exist in Prussia, Hol-
and other countries. Elementary instruction is
to the children of the poorer classes by endowed
charity schools, and the children of the middle
s are chiefly educated at schools of private
re.* In 1818, there were in England 4167 en-
d schools, 14,262 unendowed schools, and 5162
ay schools, educating 644,000, or one-sixteenth of
hire population, instead of the sixth, which Prussia
hown to be the proper amount of school-attenders.
England was shown to enjoy little more than a
part of the proper amount of education, even sup-
g the education she did enjoy to be good. Of the
0 parishes, 3500 were, in 1820, without a school.
tween 1818 and 1833, considerable advances were
in the establishment of infant and ordinary day
ls; and in the last-mentioned year, the statement
of schools throughout England and Wales, according to a parliamentary paper, was as follows:—

	Schools.	Scholars.
Infant schools,	3,242	69,686
Daily schools,	23,769	1,207,261
Total,	27,011	1,276,947
Maintenance of infant and daily schools:—		
By endowment,	4,108	133,764
By subscription,	8,859	478,537
By payments from scholars,	12,141	622,449
By subscription and payment from scholars,	2,835	212,217
Sunday schools,	45,826	1,543,826
Maintenance of Sunday schools:—		
By endowment,	371	20,532
By subscription,	13,244	1,429,277
By payments from scholars,	101	5,718
By subscription and payment from scholars,	913	80,201
Schools established by Dissenters:—		
Infant and daily schools,	923	51,963
Sunday schools,	6,247	734,697
Increase of schools between 1818 and 1833:—		
Infant and daily schools,	10,643	671,263
Sunday schools,	11,293	1,125,307
Schools to which lending libraries are attached,	2,465	

In 1833, when this statement was compiled, the population of England and Wales was estimated at 15,000,000; the total number of scholars, therefore, as above enumerated at 1,276,947, gives the ratio of about 1 in 15 of the population at school. Since 1833, additional schools have been opened, particularly in connexion with factories, mechanics' institutions, and by subscription. At present, a considerable proportion of the humbler order of schools are in connexion with two great rival societies—the British and Foreign, and the National, both of whose head establishments are in London. Recently, an annual grant of L.30,000 has been made by Parliament, to enable the privy-council to encourage elementary instruction in such schools as will submit to the supervision of an inspector. Religious sectarian differences have as yet frustrated every other step towards the establishment of a national system of education.

Ireland.—The chief educational establishment in Ireland is Trinity College in Dublin; and latterly a collegiate institution for conferring the higher branches of instruction has been established in Belfast. Elementary education has in recent times made great advances in this part of the United Kingdom. In 1831, there was established by act of Parliament a national system of education, the main feature of which is an arrangement by which the children are separated at certain times, and taught religion by their respective pastors—the necessary funds being provided by the state. By this means it was hoped that the great body of the people, and more particularly the children of the poorer class of Catholics, would at length be brought within the pale of education. We need not say how differently the plan has been regarded by various parties, both in Ireland and in Britain. The national board consists of nine commissioners chosen from both the Roman Catholic and Protestant bodies—the Roman Catholic and Protestant archbishops of Dublin being among the number. The commissioners receive from the public purse, and expend annually, the sum of L.50,000; their estimate for the year ending March 31, 1840, was L.50,357, which they proposed to lay out as follows:—On training of teachers, L.2220; model schools, L.390; grants towards building and establishing new schools, L.12,000; salaries and gratuities to teachers, L.23,000; infant schools, L.220; agricultural schools, L.150; inspection, L.4975; books and school requisites, L.4250; and general expenditure, L.3152. The fee paid by each scholar is 1d. per week. In March 1838, the number of national schools was 1384, attended by 169,548 children; but 193 new schools were soon to be opened, and it was expected that they would be attended by 40,106 pupils, making a total of 209,654. Reckoning, however, the schools said to be in actual operation in March 1838, there were then upwards of 159,000 children receiving

is believed that, at this moment, the incomes of the estates
rest property left for educational purposes, would amount,
erly managed, to L.400,000 a-year.—*M'Culloch*, 1841. It
e added, that, besides the misappropriation of this sum,
of that which is actually expended on the antiquated
ses of the grammar schools is little better than thrown
The abuse of educational endowments in England is a
national evil, requiring speedy correction.

a regular elementary education, at an annual cost to the state of L.50,000.

Besides this great national system of elementary instruction, the country possesses several religious or charitable associations for promoting education among the poorer classes: of these the principal are the Kildare Place Society, which lately supported 1097 schools, attended by 81,178 scholars, and the Church Education Society. The Roman Catholic body also supports a considerable number of schools.

Scotland possesses five colleges or universities for the higher branches of instruction, being those of Glasgow, St Andrews, King's College and Mareschal College Aberdeen, and Edinburgh. Education at these institutions is generally conferred on a more liberal and less expensive scale than at the universities of England. Scotland has been long distinguished for its parochial institutions for elementary instruction, and also for its grammar-schools or academies in the chief towns, which serve as preparatory gymnasia for the universities. Each parish (some parishes in towns excepted) is provided with a school at the expense of certain landowners or heritors, in virtue of an act of Parliament passed in 1696, re-establishing statutes formerly in existence. Another act was passed (43 Geo. III. c. 54) in 1803, amending existing provisions on the subject, and ordaining "that the salary of each parochial schoolmaster shall not be under L.16, 13s. 4d., nor above L.22, 4s. 5½d.," except in particular cases mentioned; and provision is further made for augmenting this minimum and maximum at the end of every twenty-five years. An increase accordingly took place in 1828, raising the minimum to L.25, 13s. 3⅓d., and the maximum to L.34, 4s. 4½d. These payments are made according to the liberality of the heritors; and they besides must provide a small house for the schoolmaster, with a garden, as well as school-house. The teacher is entitled to take small fees in addition; the more common fee is 2s. or 2s. 3d. per quarter for instruction in reading, with 6d. for writing. Altogether, this class of men are slenderly remunerated for their extremely valuable services. Within the last thirty years, the parish schools have been almost superseded in some quarters by the establishment of voluntarily supported institutions, better suited to the wants of the age.

In a report to Parliament in 1834, the number of schools in Scotland was stated as follows:—Parochial schools, 1047; pupils attending them, 68,293; total emoluments of teachers, L.55,339. Voluntarily supported schools, 3995; pupils attending them, 154,160. It appears from this that there were 222,453 children receiving instruction (not including the attendance at Sunday schools), and that of these only 68,293, or little more than one-fourth, were educated at the parochial schools. There were 5042 schools, and of these only 1047, or about one-fifth, were parochial establishments. The publication of this report caused considerable surprise, for it was generally believed that the great bulk of the juvenile population were instructed in the parish schools. The total emoluments of the parish teachers are stated at L.53,339, or on an average, L.45, 11s. 9¼d. each; but of this sum only L.29,642 is stated as salary, there being collected in school fees, L.20,717, and from other sources, L.4975. The average annual expense of educating each child at the parochial schools, on the above data, appears to be 15s. 7¼d. A great difference was found between the attendance of males and females. Taking the entire attendance on schools, there were 132,489 males, and 89,964 females. The result of the inquiry seems to be, that about 1 in 9 of the population in Scotland attends school.

The generally imperfect instruction among the humbler orders of society in all parts of the United Kingdom is strikingly manifested in the returns of criminal commitments. On this interesting topic we ex-

—*t the following* results of an inquiry instituted with
'o education and crime, and lately embodied in
't read before the Statistical Society of Lon-
wson W. Rawson, Esq.

"1st, That only 10 in 100 of the criminal cl committed for trial in E land and Wales are read and write well, and of these only 4 in 10 received such an amount of instruction as may titled to the name of education; and that the portions are greatly below the average stand instruction among the general population.

2d, That these proportions are considerably in Scotland, and lower in Ireland; and the e appears to establish that the degree of instructi sessed by criminal offenders is an indication of th sessed by the general population in the same di

3d, That about one-third of the adult male tion of England cannot sign their own names, a from one-fifth to one-fourth can neither rea write.

4th, That these proportions are much more able than in France or Belgium, where one-hal youths at the age of eighteen could neither re write. The proportion of wholly ignorant crimi those countries is correspondingly greater than i land.

5th, That in England, instruction is twice as lent among male as among female criminals, a half more prevalent among males in the genera lation than among females. That in Scotlan Ireland it is three times as prevalent among th criminals.

6th, That this unfavourable condition of fem these two countries is further confirmed by th that the proportion of female to male crimi greater than in England; and it may be traced circumstance of the number of girls at school i two countries being very small in comparison w number at school in England. In comparing th countries, the number of female criminals is fo be exactly in the inverse ratio to the proport females at school.

7th, That education has a greater influence females than among males in restraining them fr commission of crime.

8th, That instruction prevails, upon an averag greater extent among the agricultural than amo manufacturing counties of England; but that th cultural counties in the east, east-midland, and east, are greatly below the average."

DISPENSATION OF LAWS.

Justice, civil and criminal, is administered in land and Ireland according to laws and forms took their rise in the former country, and were i extended to the latter. The English law, as it i prehensively termed, is of two kinds—written or law, consisting of the laws established by acts o liament, and consuetudinary law, consisting of c which have existed from time immemorial, and received the sanction of the judges. Consuetu law is again divided into common law and equit former is administered by courts which profess here strictly to the old laws of England, except far as they are altered by statute; the latter was fo upon the principle that the king, in cases of ha was entitled to give relief from the strictness common law. Equity, though thus originated, ha become also a fixed kind of law, and is administe courts which decide according to established rul

The principal court for civil suits is the Co Common Pleas. The Court of King's (or Qu Bench, which was at first only a criminal tribun the Court of Exchequer, which was designed o decide in cases concerning the revenue, have b civil courts by means of fictions in their resp modes of procedure. The Court of Chancery, pr over by the Lord Chancellor, administers the equity. Courts under these designations sit b Westminister and in Dublin: there are also cou assize, which, in England, perform six provincia cuits, in some instances once, and in others twice a Minor cases, criminal as well as civil, are [illegible]

...e of provincial magistracy, who meet in every ...y once every quarter of a year. Besides the civil ...riminal tribunals, there are ecclesiastical courts, ...h have jurisdiction in matters connected with mar..., wills, &c., and adopt the principles of the old ...n law. There are also courts of admiralty, which ...e questions between persons of different nations, ...ding to the code of civil law recognised through...Europe.

...ernsey, Jersey, Alderney, and other small islands ...e British Channel, which politically belong to the ...ed Kingdom, possess a variety of peculiar privileges ...egal usages. The Isle of Man, situated in the sea ...een England and Ireland, likewise possesses certain ...lar privileges.

...Scotland, laws peculiar to itself, founded upon the ...ciples of the Roman and the Feudal law, are admi...ed by a supreme civil tribunal, denominated the ...t of Session, which remains fixed at Edinburgh, ...by a criminal tribunal, named the Court of Justi..., which not only sits in the same city, but makes ...its through the provinces. Minor civil and crimi...cases are also judged in Scotland by the sheriffs ...e various counties, and the magistrates of the ...ughs.

...nd possesses the advantage of public prosecu...of offences, the injured party being only a wit...ss to the public prosecutor. The chief public ...cutor is the Lord Advocate; the inferior public ...cutors, in connexion with the various minor courts, ...rmed procurators-fiscal. The whole expense of ...ution is defrayed by the national exchequer.

...e peculiar boast of the criminal law of the British ...s, is the *Jury*. In England and Ireland, where ...principle of the criminal law requires the injured ...y or his representative to prosecute, he can only ...by permission of a jury of accusation, called the ...d Jury; another jury sits for the purpose of de...ing if the evidence against the accused has established ...guilt. These juries consist in England and Ireland ...welve men, whose verdict must be unanimous; in ...land, the jury upon the charge consists of fifteen ..., who decide by a plurality of votes. The jury is ...institution of Scandinavian origin, transmitted to ...ain through the Saxons, and it is justly considered ...most efficient protection of the subject from the ...ceiveness of power. Civil cases, turning upon ...ers of fact, are also decided in all parts of the ...ed Kingdom by juries.

...e Houses of Lords, as the great council of the sove..., serves as a court of last appeal from the civil tribu...of Britain and Ireland. Practically, the business ...earing these appeals is undertaken by some law lord, ...as the Lord Chancellor, who, as there must be ...e persons present, is usually accompanied by a ...peral peer and a bishop. Before deciding, the ...se sometimes demands the opinions of the English ...es.

...e laws and judicial usages of England and Ireland, ...afterwards explained, are extended to most of the colo...possessions, along with all the rights and privileges ...ch are common to British subjects. Hence, the ...abitants of the most distant part of the empire, what...r be their origin, rank, or colour, are entitled by the ...stitution to enjoy the same degree of civil and reli...s liberty, and the same careful protection of life ...property, as their fellow-subjects in the mother ...ntry. This is an invaluable boon, for in no nation ...the people practically enjoy greater liberty of speech ...action (without licentiousness), and in none is the ...e more unshackled. Next in point of value to the ...ilege of trial by jury, the British subject places the ...t of *petition* to the Houses of Parliament, either for ...improvement in the laws or a redress of grievances. ...this involves the right of assembling publicly in a ...eful manner, or of *meeting constitutionally*, to dis...measures of government and legislation, it is ...ved to form the *impregnable bulwark of British ...tical freedom*.

COLONIAL POSSESSIONS.

The foreign possessions of the United Kingdom are infinitely more extensive and populous than the home country. They are about thirty in number, reckoning all classes of foreign stations and possessions, and lie in every quarter of the globe. The oldest existing colonies are the West Indies, chiefly consisting of a series of islands stretching across the great bay which nearly divides North from South America. Britain is mistress of Canada, New Brunswick, and Nova Scotia, on the mainland of North America, with Cape Breton, Prince Edward Island, and Newfoundland, on the coast. On the mainland of South America she possesses British Guiana. In the southern ocean she has appropriated the vast continent of Australia, containing the colonies of New South Wales and South and West Australia, also near its coast the island of Van Diemen's Land. In an easterly direction from these she possesses the New Zealand Islands; and near Cape Horn she possesses the Falkland Islands. In Asia she occupies a large part of Hindostan, and near its shores the large and beautiful island of Ceylon. In the Indian Ocean she possesses the Mauritius, and in the Atlantic the islands of Bermuda, Ascension, and St Helena. On the continent of Africa, the principal British colony is the Cape of Good Hope, which is at present among the most thriving of our foreign possessions, and is the only spot in Africa in which civilisation has been successfully planted. On the western coast of Africa lie the British colonies and military and naval stations of Sierra Leone, Gambia, and Fernando Po. In the Mediterranean, Britain has under her protection the Ionian Islands, and possesses Malta, and Gibraltar, the latter being merely a military post at the southern extremity of Spain. In the German Ocean also holds the small island of Heligoland.

In all the colonial possessions, the religion and law of England are established, except where a provision, in terms of conquest, has been made to the contrary. All are free crown colonies, except Hindostan, which is subordinately governed by the East India Company, by whom it was conquered with the aid of British troops. With the religion and law of England have been generally introduced the English language, usages, and manners. The colonies possess little or no independent power. They are locally managed by governors and other functionaries appointed by the crown, and are subject to numerous regulations imposed by the imperial Parliament or by the colonial secretary. Canada, Nova Scotia, New Brunswick, Newfoundland, and the Cape of Good Hope, individually possess local legislatures, or parliaments, by which various internal concerns, such as making roads, education, imposition of dues on shipping, &c., to defray expenses, are managed. The colonies are not taxed to support the home government, it being a principle in the constitution that there can be no taxation without representation; but they are subjected to various customhouse duties and restrictions, that greatly limit their capacity for improvement. All the raw produce they can export, such as sugar, coffee, timber, &c., is permitted to enter British ports at a duty much lower than the same kind of produce from foreign countries. This preference is in one respect advantageous; however, they are at the same time restricted in the purchase of various articles, except from Britain and its possessions. They are also prevented from manufacturing certain kinds of produce; for example, the inhabitants of Jamaica cannot refine their own sugar, but are compelled to send that article to England to be refined, and then buy it back again. By these arrangements, the colonies are, generally speaking, in a state of tutelage, and cannot, without a very great change in their affairs, start forward in a course of prosperity; while we at home, by being compelled to pay for their protection, and to buy their high-priced produce, receive no adequate benefit from their possession. The ostensible object of maintaining a connexion with the colonies, is to find

an outlet for British manufactures, and to employ shipping in the transport of goods. It is, however, extremely doubtful whether the expense incurred in supporting them is not much greater than all the profit derived from commercial intercourse. In a return to Parliament lately published, the following statement of the expenditure of the United Kingdom on the colonies, was given for the year ending March 1, 1836:—

Military charges, net,	L.2,030,089
Civil charges, net,	486,154
Naval expenditure,	39,364
St Helena (not classified),	90,833
	L.2,646,410
Deduct repayments out of colonial revenues, &c.,	39,928
	L.2,606,482

The expenditure for each colony, neglecting fractional parts of a pound, is as follows:—

MILITARY AND MARITIME STATIONS.

	Total Expenditure incurred by Great Britain.
Gibraltar,	L.139,830
Malta,	110,818
Cape of Good Hope,	242,907
Mauritius,	76,284
Bermuda,	91,446
Fernando Po,	510
Ascension,	4,907
Heligoland,	1,016
Ionian Islands,	118,985
St Helena,	87,558

PLANTATIONS AND SETTLEMENTS.

Jamaica, Bahamas, Honduras,	232,428
Barbadoes, Grenada, St Vincent, Tobago, Antigua, Montserrat, St Christopher's, Nevis, Anguilla, Virgin Islands, Dominica, St Lucia, Trinidad, British Guiana,	373,242
Lower Canada, Upper Canada,	221,441
Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland,	161,294
Sierra Leone, Gambia,	38,347
Ceylon,	133,805
Western Australia,	12,745

PENAL SETTLEMENTS.

New South Wales, Van Diemen's Land,	533,501
General charges,	23,449
	L.2,606,483

The total value of exports to the above dependencies in 1838 (see statement of exports in another page), was about ten millions, the profit on which would be 10 per cent.; but the above sum incurred for protection is equal to 25 per cent. on the ten millions, and therefore there is a clear loss of 15 per cent. on colonial commerce. We have not seen any statement of what benefit is derived by British shipping from the colonial connexion; but whatever it is, there can be no doubt that the same number of ships would be employed in the export and import trade, if the colonial connexion was disevered. It appears to us, that the only real advantage derived by Britain from her colonies, is the ready means afforded for sending large masses of her population as emigrants to these vast and fertile territories, where their settlements become the nurseries of future independent and civilised nations. In this respect, the colonial system of Britain is of immense importance to the cause of Christianity and civilisation; and it is only matter of deep regret that, by proper management and the abolition of all restrictions, the colonies are not rendered more valuable and less expensive to the mother country. Reckoning the expense of military, naval, and civil protection, along with the heavy loss incurred by our obligation to buy their dear produce, it is calculated that in ordinary times the people of Great Britain lose between five and six millions annually by the colonies.

India is not, strictly speaking, a colony or possession of Britain. Politically it belongs to the Honourable East India Company, an association of British mer- . by whose servants it has been conquered, and locally governed, under the control and ap- however, of the crown, and a charter granted ilature. In virtue of an act of Parliament passed in 1833, the East India Company ranteed the government of the British territo India until April 1854; the company is not to on any trade; commerce to be open to British chants; natural-born subjects of England may to, settle, and buy lands in India; and natives o of whatever colour or religion, are to be eligible t India affords no direct revenue or tribute t land, as conquered countries are in general s to do. The only advantages which we derive fr occupation of these immense countries, are the puted possession of their trade, and the fortunes times very large) saved out of their salaries by subjects who are appointed to discharge the d government. It is to the trade of the country ever, that we must look for any considerable a manent advantage; and as this can only be i increase by the cultivation of peace and order t the country, the interest of Britain becomes involved in maintaining henceforth the peace of The improvement which a few years of peace ef these fertile countries, is astonishing: the popula a certain portion is supposed to have nearly dou the period of comparative peace from 1811 t being in the former year only forty-five, and latter almost ninety, millions. Till she came British rule, India never enjoyed twenty years o and orderly government in all her former Many faults and oppressions are laid to the of the English in India, from which it is imp to defend them. The taxes (which fall chief the *land* and the poor peasantry) are very opp and are rendered more so by the unprincipled e of the natives who are employed to collect them. tice also is administered in a foreign language (P and the courts are so few, that districts which are than Scotland have hardly one to each. Notwith ing all this, the preservation of public order peace has conferred advantages on the country most inestimable kind. Latterly, considerable im ments have been effected by the establishment of s and by Christian missionaries of various persua

The territorial extent of the British possess India is 514,190 square miles; the population, as it has been ascertained, 89,577,206; to whi be added eleven millions more for districts not in in the census. There are several states whi under British *protection*, though not directly go by our establishments; these have an area of 6 square miles, and a population estimated at for lions. The goods exported from Britain in the East Indies, including Ceylon, were val L.3,876,196. As India, by the taxes which it the Company, clears the cost of its own protectio all its other public expenses, it may be conside the only foreign possession of Britain whose affords an unburdened profit to the home co The forces employed by the Company, partly co of British regular troops, and partly of native amounted in 1830 to 224,444 men. In 1833 annual revenue was L.13,680,165, an enormous be raised in a semi-barbarous country, yet no than sufficient to discharge the annual expenses. Company at that time was in debt to the amo L.35,463,483. (See article EAST INDIES.)

MANUFACTURING AND COMMERCIAL INDUSTRY.

Manufactures.—The manufactures of Great B surpass in extent and variety those of any other try; and from the superior character of its mach the economising of time, and the refined skill workmen, the manufactures are generally produ a lower rate, and of better quality, than in co more favourably situated with respect to the p tion of raw materials.

The Cotton Manufacture is the most extensive whole, both with respect to the capital which it in and the number of people to whom it gives employ it is supposed to form one-fourth part of the to

y of Britain. The number of work-people in its ... (including spinners, weavers, ..., &c.; engineers, smiths, and others engaged ... works) is estimated at 1,500,000. The capital ... in this large branch of manufacture at present ... at about L.50,000,000, and the total value ... goods annually produced is believed to be be... L.30,000,000 and L.34,000,000. The raw ma..., or cotton wool, is brought chiefly from America, ... part also from the East Indies and Egypt. The ... seats of the manufacture are Manchester, Glas... and Paisley; and the magnificent apparatus of ..., machinery, and warehouses, with which these ... are filled, for this sole business, are the astonish... of all visitors. According to papers published a ... ago by the Board of Trade, there were in the ... at large 1262 cotton factories at work, and 42 ..., since the period of which estimate many more ... been erected. It has been calculated that there ... least 10,000,000 of spindles and 100,000 power... in the United Kingdom. The cotton manufacture ... formerly been greatly impeded in its tendency to in... by the establishment of cotton factories in Ger..., Switzerland, and the United States, in the two ... of which countries labour or food is cheaper than ...tain, and consequently goods are there produced ... somewhat cheaper rate.

The Woollen Manufacture.—This manufacture was ... earliest established in England; it gives employ... to above half a million of people, who receive on ...verage, men, women, and children, about L.15 per ... The goods manufactured are valued at twenty ... millions; the finer qualities of the raw material are ...orted from Germany, or from our colonies in Aus...; the coarser are produced at home: the value ...e whole is estimated at L.6,000,000. This manu...re, particularly the finer kinds, is chiefly carried ...n the north of England; some of the coarse ...ics, such as plaidings, duffles, &c., are made at ...bleis in Scotland; and Kilmarnock and Stirling ...e a thriving trade in carpets, blankets, &c. In the ...st kind of linendoths, the Prussians are said to ...l the English.

The Silk Manufacture has been carried on in this ...ntry for a long period, having been first introduced ...e fifteenth century by emigrants from France. It ... for many years confined chiefly to Spitalfields in ...don, and to Coventry. There were then prohibitory ...s on all foreign silks, but this, instead of fostering ... manufacture, as was intended, only encouraged its ...gglers in incidence, as they knew that they had the ...e market to themselves. These prohibitions have ...e partly removed since 1824; and those regulations ...ch confined the manufacture to some particular ..., are also done away with; so that the trade has ...e roused from its inactivity, and a great deal more ...siness is done than formerly. The quantity of silk ... working imported in 1823 (the year before removing ... restrictions) was two and a half millions of lbs.; ... average quantity of the same material imported ...ce, has been three and a half millions. The con...ption of silk goods at home has increased more than ...old. The annual produce of the manufacture is now ...mated at L.10,000,000; and it is supposed to give ...loyment to about 300,000 work-people. Its chief ...ts are Spitalfields in London, Coventry, and latterly ...chester, Paisley, and Glasgow, where some of the ...st beautiful fabrics are now made.

The Leather Manufacture is of considerable import...e. The value of the different articles of which it forms ... material, is estimated at L.15,000,000; this includes ...es, saddlery, boots and shoes, &c. The increase of ... trade in late years has been very great; *hides* are ...orted from all quarters of the world, and the quantity ... doubled within a few years. The number of lamb ...kid skins imported, in 1830, was about three millions.

Iron, Cutlery, and Hardware.—This is one of the ...nufactures in which Britain particularly excels. The ...ndance of her mines of iron, copper, tin, lead, and ...coal, and the easy access which can be had to them at all points by sea, river, or canal, give facilities which are possessed by no other country. The annual value of the manufactured goods is estimated to be above L.17,000,000, and employment is given to 320,000 men in the working of copper, brass, pewter, steel, tin, and other metals. The chief seat of the manufacture of the finer and more skilled articles, is Birmingham, Sheffield, and the immediate vicinity; and from these districts metal goods of all descriptions, implements of war, and the most elegant ornaments of peace, are dispatched to all parts of the world. For heavy cast-iron goods, cannon, parts of machinery, &c., Carron, in Scotland, has been long celebrated.

The Earthenware, China, and Glass Manufactures, rank next to those we have mentioned. The number of people employed cannot be easily estimated; but as no money has to be sent abroad to purchase any part of the material of these works, the whole proceeds of the goods go to pay wages at home. The annual value of the glass manufactured is about two and a half millions, and that of the pottery and earthenware about three and a half. It is believed that the trade in glass might be doubled, if relieved of the burdensome excise duties and regulations which prevent improvement.

The whole value of the manufactures of all kinds produced annually in Great Britain, is reckoned to be about L.150,000,000.

Commerce.—Since the middle of the last century, the rapid progress of improvement in manufactures has continued to afford new materials and goods for exportation, and the increase of trade has been in proportion. Since 1800, the import and export trade have prodigiously increased. The late and present extent of the import and export trade of the United Kingdom is as follows:—In the year ending January 5, 1840, the official value of imports was L.62,004,000; official value of exports of British produce and manufactures, L.97,402,726; official value of exports of foreign and colonial merchandise, L.12,795,990; total exports, L.110,198,716.

Quantities of the Principal Articles of Foreign and Colonial Merchandise entered for Home Consumption, in the Years ending January 5, 1839 and 1840.

		1839.	1840.
Bark,	*cwt.*	613,743	620,461
Butter,	*cwt.*	252,132	213,545
Cheese,	*cwt.*	219,354	202,302
Coffee,	*lbs.*	25,818,613	26,127,293
Corn: Wheat,	*qrs.*	1,740,300	2,501,111
Other kinds,	*qrs.*	90,957	1,229,352
Flour,	*cwt.*	332,847	665,382
Cotton wool:			
United States,	*lbs.*	339,579,134	385,423,898
East Indies,	*lbs.*	34,135,981	29,332,877
Brazil,	*lbs.*	24,727,312	17,104,527
Other places,	*lbs.*	12,313,716	12,921,718
Dyes: Indigo,	*lbs.*	3,020,170	2,779,803
Lac,	*lbs.*	633,661	539,999
Flax and Hemp,	*cwt.*	2,381,697	2,166,555
Hides,	*cwt.*	318,763	361,995
Molasses,	*cwt.*	527,089	533,781
Olive oil,	*gals.*	2,038,028	1,815,602
Opium,	*lbs.*	31,204	41,671
Pepper,	*lbs.*	2,635,020	2,643,584
Quicksilver,	*lbs.*	403,530	341,675
Rice,	*cwt.*	138,573	205,787
Rice in husk,	*bush.*	290,563	337,472
Saltpetre,	*cwt.*	300,295	331,483
Seeds: Clover,	*cwt.*	93,892	93,735
Flax and lint,	*bush.*	3,190,217	3,878,705
Silk, Raw, &c.,	*lbs.*	4,867,419	4,757,639
Spirits: Rum,	*gals.*	3,133,373	2,830,532
Brandy,	*gals.*	1,203,665	1,468,322
Sugar: West Indies,	*cwt.*	3,369,035	2,790,234
Mauritius,	*cwt.*	595,160	592,306
East India,	*cwt.*	418,717	478,602
Tallow,	*cwt.*	1,166,177	1,152,319
Tea,	*lbs.*	32,366,412	35,136,732
Tobacco,	*lbs.*	23,546,295	23,167,711
Wine: Cape,	*gals.*	538,900	535,134
French,	*gals.*	426,896	320,659
Other sorts,	*gals.*	6,295,110	6,304,704
Wool, Sheep's,	*lbs.*	56,734,625	53,291,231

Declared Value of Principal Articles of British and Irish Produce and Manufactures Exported.

	1839.	1840.
Apparel,	L.586,961	L.718,477
Arms, ammunition,	333,727	394,721
Beef, pork, &c.,	297,119	332,120
Beer, ale,	317,358	384,324
Books,	143,966	155,715
Brass and copper,	1,221,739	1,230,506
Butter, cheese,	280,651	284,148
Cabinet wares,	77,490	80,892
Coals, culm,	485,950	542,609
Cordage,	94,639	149,345
Cotton manufactures,	16,715,856	17,692,183
Cotton yarn,	7,431,876	6,858,193
Earthenware,	651,344	771,173
Fish,	209,665	202,034
Glass,	377,284	371,208
Haberdashery,	514,117	613,950
Hardwares,	1,496,397	1,838,531
Hats,	153,339	167,738
Horses,	65,280	55,730
Iron, steel,	2,535,609	2,719,825
Lead and shot,	154,126	197,599
Leather, saddlery,	361,838	476,035
Linen manufactures,	2,830,272	3,414,067
Linen yarn,	746,162	818,484
Machinery,	627,430	693,285
Painters' colours,	177,780	236,482
Plate, jewellery,	240,584	274,305
Salt,	223,486	218,907
Silk manufactures,	777,273	868,118
Soap, candles,	351,130	466,934
Stationery,	218,912	267,574
Sugar, refined,	553,947	209,844
Tin wares, &c.,	561,022	485,346
Wool,	458,396	389,156
Woollen goods,	6,179,606	6,694,965
Other articles,	1,708,071	1,927,174
Totals,	50,060,970	53,233,580

Declared Value of British and Irish Produce and Manufactures Exported from the United Kingdom to different Countries in 1838.

British Possessions.—East India Company's territories and Ceylon, L.3,876,196; British West Indies, L.3,393,441; British America, L.1,992,457; Australia, L.1,336,662; Gibraltar, L.894,696; Cape of Good Hope, L.623,323; Mauritius, L.467,342; Channel Islands and Man, L.343,854; West Coast of Africa, L.413,354; Malta, L.226,040; St Helena, &c., L.15,065; total, L.13,581,830.

Foreign States.—Russia, L.1,653,243; Sweden, L.102,647; Norway, L.77,485; Denmark, L.181,404; Prussia, L.155,223; Germany, L.4,988,900; Holland, L.3,549,429; Belgium, L.1,068,010; France, L.2,314,141; Portugal, L.1,165,395; Azores, L.31,385; Madeira, L.34,947; Spain, L.243,839; Canaries, L.47,623; Italy and Italian Islands, L.3,076,231; Ionian Islands, L.96,100; Turkey and Greece, L.1,787,997; Syria, L.188,440; Egypt, L.342,505; Barbary, L.74,013; East Coast of Africa, L.10,765; Cape Verd Islands, L.1302; Arabia, L.167; China, L.1,204,356; Sumatra and Java, L.505,362; Philippine Islands, L.31,780; New Zealand, &c., L.1095; Hayti, L.290,139; other Foreign West Indies, L.1,025,392; United States, L.7,585,760; Mexico, L.430,776; Columbia, L.174,338; Brazil, L.2,606,684; States of La Plata, L.690,345; Chili, L.413,647; Peru, L.412,195; total, L.36,479,140.

In all, L.50,060,970; of which Europe, L.21,171,504; Africa, L.1,847,750; Asia, L.6,689,856; Australasia, L.1,337,737; North America, L.9,578,217; West Indies, L.4,708,972; Mexico and South America, L.4,726,905.

It will be observed from these statements, that the best customer of Great Britain is the United States of North America, the trade with which has prodigiously increased since the colonial connexion was dissolved. The exports to Brazil are likewise considerable, being at present about L.4,000,000. There is reason, however, to fear that both these countries contemplate the exclusion of British goods, in consequence of our high prohibitory duties on their produce. For a further notice of British manufactures and commerce, we refer to the article COMMERCE, and also to the articles on the various branches of manufactures.

SHIPPING.

The following statements embrace a view of the number of ships belonging to and engaged in the commerce of the British empire:—

Account of the Registered Shipping belonging to the empire on the 31st of December 1839, and Ships built during the previous Year.

	Ships Registered.		Ships Built.
	1839.		1838.
	Tons.	Men.	Ships.	Tons.
England,	1,983,522	114,293	951	144,300
Scotland,	379,194	25,909	217	32,717
Ireland,	169,289	11,288	69	4,084
Jersey, Man, &c.,	39,530	4,473	61	5,022
Colonies,	497,798	35,020	368	47,830
Totals,	3,068,433	191,283	1646	234,961

The total number of *registered* Ships belonging to the British Empire on December 31, 1838, was 26,039, and on December 31, 1839, 27,745.

Account of Shipping employed in the Foreign and Colonial Trade of the United Kingdom in the Year ended January 5, 1839, stated exclusively of Ships in Ballast.

Countries to which Ships belonged.	Entered Inwards.		Cleared Outwards.	
	1839.		1838.	
	Ships.	Tons.	Ships.	Tons.
British Empire,	14,348	2,756,533	11,962	2,197,614
United States,	579	295,056	579	291,396
Prussia,	1,165	222,253	556	98,517
Norway,	969	134,449	265	24,703
Denmark,	1,557	110,797	1,254	80,664
Russia,	230	75,012	133	36,628
Holland,	731	61,925	513	42,630
Belgium,	313	42,141	359	32,957
France,	1,508	102,123	1,671	136,923
Other States,	1,685	167,644	1,141	112,653
Totals,	23,114	3,957,468	18,423	3,089,725

Account of Shipping employed in the Coasting Trade in the Year ended January 5, 1840, stated exclusively of Ships in Ballast.

	Entered Inwards.		Cleared Outwards.	
	1839.		1839.	
	Ships.	Tons.	Ships.	Tons.
Employed in intercourse between Britain & Ireland,	9221	1,176,893	17,375	1,768,34
Other Coasting Ships,	121,033	9,433,511	125,560	9,537,83
Totals,	130,254	10,610,404	142,935	11,306,17

The following is the list of steam-vessels belonging to the British empire in 1836:—

	Vessels.	Tonnage
England,	338	39,314
Scotland,	93	11,523
Ireland,	71	13,469
Guernsey, Jersey, and Man,	7	914
British plantations,	39	7,893
Total,	549	67,923

This is very nearly double since 1829. Now (1841) the list might be vastly increased by the addition of the Atlantic steamers, and others of great power.

None of the above accounts include the great number of canal or fishing-boats with which many parts of the coast are swarming.

PUBLIC WORKS, CANALS, RAILROADS, DOCKS, &c.

Connected with our manufactures, are the great works of the civil-engineer—canals, roads, docks, bridges, piers, &c.—works which attest, more obviously than any others, the activity, power, and resources of the country. It is to the facility of internal communication afforded by these works, that the heaviest goods, though manufactured in the interior of the country, can be carried to sea-ports for exportation, without any burdensome addition to their price; and materials for their different manufactures can be carried to inland towns from sea-ports, by canals or railroads, with the same advantage.

The length of the *Turnpike Roads* in 1829 (the latest authentic account), was 24,541 miles; annual income L.1,214,716; debt, L.3,200,000. The income, of course, was from tolls, and was intended for repairing the roads and paying the interest of the money borrowed for constructing them. The total length of the canals, in the

year, was [illegible] miles; the income on these canals ...ted to L.13,205,116, which, besides keeping them ...ir, afforded an average profit to the proprietors ...per cent. on their capital.

... Bridges, Aqueducts, and Tunnels, which have ...erected in connexion with roads and canals, are ...magnificent and numerous than those of any other ...try in the world. To estimate their number would ...fficult; but we may mention, that, in London, the ...ster and London bridges alone cost very nearly ...and a half millions of money. The iron bridges ... have been erected in different places, are the ...ration of all foreigners. Their arches are ...ed of a number of strong ribs of metal, standing ...from each other like the joists of a house, and on ... the floor or roadway is formed. Bridges of sus... are one also common, in which the roadway is ...ded by iron bars, from strong chains which are ... in the earth, and then hung over high pillars at ...end of the bridge; by this means bridges can be ...ructed over deep and broad waters, where it would ... been altogether impossible to stretch an arch of ...other kind. On a well-frequented road, bridges cost... L.14,000 or L.16,000 are often constructed merely to ...ce the distance by a mile or two, or to avoid an ...minent ascent in the old track. Were it possible ...imate the amount of capital laid out on this kind ...provement alone, it would be almost incredible.

...e number of *Railway Companies* incorporated by ...f Parliament up till January 1835, in Great Bri... and Ireland, was 107, and the capital which they ... allowed to raise by shares was L.41,610,614; they ... besides allowed to raise by loan L.16,177,630. A ...derable number of these railways being jobbing, ... least crude speculations, have never commenced, ...the number of railways actually begun to be pro... or finished at the beginning of 1840, in the United ...dom, was only about fifty. The principal lines are ...e Liverpool and Manchester Railway, about thirty-... miles long, and uniting these populous towns; the ...don and Birmingham Railway, about one hundred ...twelve miles long, connecting the metropolis with ...centre of England; the Grand Junction Railway, ...ming the London and Birmingham line to that of ...rpool and Manchester, and also to a railway pro... northward to Lancaster, and thus forming a ...important thoroughfare obliquely across the coun... the Midland Counties, North Midland, and Great ...h of England Railways, connecting the great seats ...ade in Northumberland, Durham, Yorkshire, and ...shire, with the London and Birmingham line; ...Newcastle and Carlisle Railway, connecting these ...s; the Great Western Railway, about one hundred ... seventeen miles long, connecting London with ...ol, and with smaller tributary lines opening up the ... of England; the South-Western Railway, about ...nty-seven miles long, connecting London with ...hampton; the Manchester and Leeds Railway, ...necting these populous towns. In Scotland, the ...burgh and Glasgow Railway, and the Glasgow and ... Railway, are the principal lines. The most pro... of all the lines is that of the London and Bir...ham, the weekly revenue of which is upwards of ...,000: the weekly revenue of the Grand Junction, ...ch joins it, is L.9000.*

...ocks, Piers, and Lighthouses.—Docks are artificial ...s built of stone for the reception of ships: they ... of two kinds, wet and dry. A dry dock is a recep... where vessels are built or repaired; after which ...ible is admitted by flood-gates, and they are floated ...to sea. Wet docks are constructed for the use of ... when loading and unloading, it being found that ...n they are allowed to settle down unequally on the ... or sand of rivers and harbours, their timbers are ...ken, and the vessels considerably damaged; in the ...docks they are kept always afloat. The capital ex...ded by some of the dock companies in London is ...mmense. The capital expended by the London Dock Company in purchasing ground (chiefly the sites of houses and streets) was more than one million; and the whole cost of the works was L.3,938,310.

The docks at Liverpool have an area of water of about 91 acres, and the quay space is nearly eight miles in total length. The business transacted may be conjectured from the fact, that the dues paid by vessels entering the docks in 1840, was L.197,477, 10s. 6d. Few of the large sea-ports are without the accommodation which docks yield to commerce; those at Leith contain ten acres of water-room, and have cost L.285,100. It would be idle to attempt a description or even enumeration of the immense number of piers and harbours which have been constructed at the different sea-ports. At every place where the profits of trade seemed to authorise such erections, capital was seldom deficient to complete them.

The *Lighthouses* of Britain are perhaps the most remarkable part of the nautical apparatus of the islands. The capital expended upon them has been large, and the skill with which some of them, such as the Bell-Rock and Eddystone lighthouses, are constructed for durability in the midst of a tempestuous sea, could only have been exhibited in a country where mechanical science existed in its highest perfection; and there is hardly a dangerous or doubtful point along the coast where the mariner is not guided by a light on some headland or rock. There is, however, much complaint concerning the dues levied from ships for lighthouse expenses; some of them are held as profitable calls by private families, and in others the money levied is applied to purposes quite unconnected with lighting.

SOCIAL STATISTICS.

The population of the United Kingdom consists of various classes of persons, amongst whom, with respect to wealth, education, and general condition, even more than the usual differences are to be found. Notwithstanding great improvements in agriculture of late years, the country cannot produce wheat, oats, and other cereal grains, in sufficient abundance to meet the demands of a daily increasing and hard-labouring population, and what is deficient is excluded, except at high duties, which render the price of bread higher than it is elsewhere in Europe.* Without entering minutely into this great and much debated question, it may be mentioned as a general result, that the difficulty of purchasing food leads to a corresponding depression of circumstances in the humbler orders of the community, and either causes an extensive dependence on poor-rates for support, or produces debased and dangerous habits of living. The poor of England are entitled by law to support in workhouses, according to the provisions of an act of Parliament passed in 1834; in 1839, the money expended on paupers in England was L.4,406,907, being only about two-thirds of what had, during some years, been expended under a somewhat different system, and a less careful administration of funds. In Ireland, a similar poor-law has lately been introduced, and is likely to prove of great service to that part of the empire. In Scotland, none but the impotent or very aged poor can legally claim relief from the parish funds: these are very inadequately supplied. The humbler classes are accordingly, in many places, in a very miserable condition. The entire outlay for the parochial poor in Scotland was lately no more than L.140,000.

The present condition of society throughout the United Kingdom exhibits the spectacle of great and valuable efforts at improvement among the more enlightened classes. Within the last ten years, the utility of the press has been immensely increased, and works of instruction and entertainment have been circulated in

* The annual consumption of all kinds of grain in the United Kingdom was, a few years ago, estimated at 52,000,000 quarters, about a twelfth part of which would require to be imported. All ordinary kinds of animal food, of foreign produce, are entirely excluded.

...ROADS, CANALS, AND RAILWAYS, for further in...

departments of society where formerly nothing of the kind was heard of. The establishment of mechanics' institutions, lyceums, exhibitions of works of art, reading societies, and other means of intellectual improvement, forms another distinguishing feature of modern society. At the same time, great masses of the people, for lack of education, and from other unfortunate circumstances, are evidently gravitating into a lower condition. From these reasons, and others connected with the development of our manufacturing and commercial system, convictions for crime have been latterly increasing. In 1837, there were 17,090 convictions for crime in England. The late establishment of an improved prison system in Scotland, independently of other advantageous circumstances, is expected to greatly lessen the number of offenders in that part of the empire.

England is now provided with a law for enforcing the registration of births, marriages, and deaths; but in other parts of the empire, Scotland in particular, the arrangements for these useful objects are very imperfect. During the year ending June 30, 1839, the number of births, marriages, and deaths, in England and Wales, was as follows:—births, 480,540; marriages, 121,083; deaths, 331,007. This enumeration, compared with the previous year, shows, for births, an increase of 80,828; for deaths, a decrease of 4949; and for marriages, an increase of 9602. At the celebration of marriage, parties are required to sign their names; and it appears that, on an average, 33 in the 100 of males, and 49 in the 100 of females, sign with a mark, being unable to write. The average age of men in England at marriage is about 27 years, and of women, 25 years and a few months.

An account of the population of the empire has been taken at intervals of ten years from 1801; and the following table will show the gradual increase which has occurred during these intervals:—

	1801.	1811.	1821.	1831.
England and Wales,	8,872,980	10,163,876	11,978,875	13,894,569
Scotland, -	1,599,068	1,805,688	2,093,456	2,365,807
Ireland, - -	—	4,500,000	6,802,093	7,734,395
Army and navy,	470,500	640,500	319,300	277,017
Totals,	10,942,548	17,109,864	21,193,724	24,271,788

The increase of population has been greatest in the manufacturing districts, where, in some instances, it has been double of those which are merely agricultural; as, for example, the increase in the manufacturing counties of England, from 1821 to 1831, was 22 per cent., while in the agricultural counties it was only 10½. It has been ascertained, that, in 1831, there were of the classes belonging to the aristocracy in Great Britain, from 3000 to 4000 families; of squires and gentlemen, who are land-proprietors, stockholders, money-lenders, &c., from 50,000 to 60,000 families; of learned professions—36,000 clergy of all denominations, about 30,000 lawyers, and 50,000 physicians, surgeons, apothecaries—making 116,000 families, with half as many more dependants; of farming tenants, about 250,000 families, and of their labourers, 400,000 families; of merchants, shopkeepers, and general traders, 900,000 families; of artisans, 200,000 families; of manufacturers in all lines, 500,000 families; of labourers, porters, and servants, 600,000 families; and of destitute paupers, soldiers, &c., 800,000 families.

The statement of the aggregate population of the British islands, affords no idea of the force which is actually employed in agriculture and manufactures. The effective labourers (men) are estimated to amount to no more than 7,000,000, whereas, reckoning the powers exerted in productive industry by animals, mills, steam-engines, and mechanism of various kinds, the force is equal to the strength of more than *sixty millions* of working men.

An estimate was formed a few years ago of the total annual income of all classes of people in the United Kingdom, with the aggregate value of the articles of use and luxury which each produces, and from this we make the following extract:—

Value of agricultural and dairy produce, -	L.236,(
... Mines and minerals, - - - -	21,(
... Inland and foreign trade, - - -	57,(
... Manufactures, - - - - -	143,(
Total of produce and property annually created in Great Britain, -	L.503,(

An estimate was also formed of the value whole property, public and private, which ha created and accumulated by the people of this c and which they now actually possess. This valu the sum is expressed by figures, is so immense, eludes the imagination to conceive it.

Value of productive private property, -	L.2,695,(
... unproductive, or dead stock, -	580,(
... public property of all kinds, -	105,(
Total public and private property, - -	L.3,679,(

The wealth of the empire is distributed in lowing proportions between the three countries:

	Productive private property.	Unproductive private property.	Pul p
England, -	L.2,054,600,000	L.374,300,000	L.4
Scotland, - -	318,100,000	51,100,000	
Ireland, -	622,100,000	116,400,000	1

The proportion which these values bear to the lation in each country is not suggested by the but in England (taking productive and unpro property together) the ratio is L.186 to each in Scotland, L.160; and in Ireland, L.96.

The following is the latest statement of the and population of the empire:—

	Population.	S
British Islands, - - -	24,371,738	
British dependencies in Europe, -	247,701	
North America, Canada, &c., -	1,023,208	
West Indies, - - - - -	894,050	
Australian Colonies, - - -	29,625	
Islands of Ceylon and Mauritius, -	1,034,736	
British possessions in Africa, -	154,046	
East Indian Empire, - - -	89,577,906	
Total, - - -	117,373,300	

This table shows that Britain rules over a p tion about five times as numerous as her own, an an extent of country fifty times as large as the British islands.

WILL THE PROSPERITY OF BRITAIN CONTINUE?

The question is often asked, Will this singular always remain as prosperous, and as much supe the other nations of the world, as they now are! not their far-extended empire, made up of so different elements, one day crumble in pieces! not their unrivalled manufacturing skill be o surpassed, and driven from the market!—their on which their grandeur is founded, be given to o —and their immense national wealth dissipated i rivalship with more skilful competitors? We m swer this question by simply asking another—O does the superiority of Britain rest? It is not large armies or her powerful fleets. These, wh they are, are supported and created by her reso and do by no means give birth to them. It is h mirable form of government, the stability of her tutions and usages, which admit of reform w uproar or revolution, the equality of her laws, t vantages of her insular situation, and, above a mental energy, desire for rational comforts, stea dustry, and perseverance of her people, which given her her present superiority. Whatever n the factious attempts to thwart her advance, or t vent those improvements which are required in ent departments of her affairs, it is our belief th British empire will overcome all impediments career, and, with increasing resources, attain a of greatness far beyond that which has already developed.

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DESCRIPTION OF ENGLAND.

...n ancient kingdom of England, inclusive of Wales, ...ming geographically the principal division of the ...nd of Great Britain, and politically the chief divi... of the United Kingdom—the country in which, it ...o boast to say, the arts and institutions of social life ...e made the greatest advance they have ever done ...any part of the world—enjoys a situation which has ...ssionably tended much to make the country what ..., both politically and socially. The island of which ...s the southern and larger portion, is protected from ...bouring countries by a sea of sufficient breadth ...most parts, and sufficiently uncertain in its condition, ...draw almost insuperable difficulty in the way of an ...ading force. Placed in a medium latitude, it is fur... saved by the surrounding ocean from those ex... of heat, cold, and aridity, to which continental ...tries in both higher and lower parallels are often ...ject. While there are some districts, chiefly in the ...st and north, in which an uneven surface prevails, ...country may be generally described as of a level ...d fertile character. Almost every where, the eye ...s upon the evidences of a long-enduring cultivation, ...rich corn-fields and meadows, surrounded by well... hedges and rows of trees; the elm-surrounded ...hite parish church, the clean honey-suckled village, ...d the well-wooded park connected with the residence ...the nobleman, being other notable features ...the landscape. When we turn from merely rural scenes, we see not less striking evidences of an advanced civilisation, in frequent brick towns and "towered cities," generally overhung by clouds of smoke resulting from the coal every where used for domestic, if not also for manufacturing purposes. The peculiar features of some of these cities—Liverpool, Hull, and Bristol, vast depôts of mercantile shipping; Manchester and Birmingham, sites of extensive manufactures; London, in itself a superb part, the seat of the government and the residence of a class of unprecedented wealth and splendour—will be more particularly adverted to in the sequel.

England is situated between 50° and 55° 45′ north latitude, and 6° west and 1° 50′ east longitude, from Greenwich Observatory. On the north, the only direction in which it is not surrounded by the sea, it is divided from Scotland by a series of rivers and a chain of mountains. The greatest length, from Lizard Point in Cornwall to Berwick-upon-Tweed, is 400 miles; and the greatest breadth, from St David's Head in Pembrokeshire to the east of Essex, is 300 miles. The area has been variously estimated at 50,337 and 57,900 square miles; it has also been estimated at 37,784,400 acres, of which only about a fourth part is said to be uncultivated.

England is divided into fifty-two counties, forty of which form England Proper, while twelve belong to Wales. They may be thus enumerated:—*Southern counties*—Cornwall, Devon, Somerset, Dorset, Wilts, Hampshire, Berkshire, Sussex, Surrey, and Kent. *Midland Southern Counties*—Middlesex, Hertfordshire, Bedfordshire, Buckinghamshire, Oxfordshire, Gloucestershire, Cambridgeshire, Huntingdonshire, Northamptonshire, Warwickshire, and Worcestershire. *Midland Northern Counties*—Rutlandshire, Leicestershire, Staffordshire, Nottinghamshire, and Derbyshire. *Eastern Counties*—Essex, Suffolk, Norfolk, and Lincolnshire. *Counties bordering on Wales*—Monmouth, Herefordshire, Shropshire, and Cheshire. *Northern Counties*—Lancashire, Westmoreland, Cumberland, York, Durham, and Northumberland. *Counties in South Wales*—Glamorganshire, Brecknockshire, Caermarthenshire, Pembrokeshire, Cardiganshire, and Radnorshire. *Counties in North Wales*—Montgomeryshire, Merionethshire, Flintshire, Denbighshire, Caernarvonshire, and Anglesea. The capital city is LONDON, which is also the metropolis of the United Kingdom. The counties are subdivided into hundreds, wapentakes, tithings, &c., the whole containing 25 cities (inclusive of London), and 172 boroughs. For ecclesiastical purposes, the country is divided into 11,077 parishes; the largest number in any county being 475, in Somersetshire, and the smallest 32, in the county of Westmoreland.

Owing to the limited extent and insular position of England, it contains no rivers comparable in magnitude to those of various continental countries. There are, nevertheless, some fine navigable streams, as the

Thames, Medway, Humber, and Tyne, on the east side of the island, and the Mersey and Severn on the west side. The Trent, Ouse, Tees, Wear, Dee, Avon, and Derwent, are minor, but not inconsiderable rivers, besides which there are many of inferior importance. England contains no large lakes; but those of Cumberland, Westmoreland, and Lancashire, though of small size, are celebrated for the picturesque scenery by which they are surrounded.

Wales and the west side of England generally are mountainous. The chief ranges of mountains in this district have been classed under three heads—the *Devonian Range*, stretching from Somersetshire, through Devon, into Cornwall, and terminating with the promontory of the Land's End; the *Cambrian Range*, extending from the Bristol Channel through Wales; and the *Northern* or *Cumbrian Range*, stretching from Derbyshire, through Cumberland, and passing into Scotland. None of the individual hills exceed 3000 feet in height, except a few in Wales; the highest being Snowdon in Caernarvonshire (3571 feet). In the central and eastern parts of England (south of Yorkshire), there are a few ill-defined ranges of swelling eminences, but none which reach the altitude of 1000 feet. Besides Snowdon, the principal eminences in England are David (3427 feet) and Llewellen (3469), both in Wales; Skafell (3166), Skiddaw (3022), and Saddleback (2787), in Cumberland; and Helvellyn (3055), in Westmoreland. The loftiest points in the Devonian range are not more than from 1000 to 1200 feet in height.

GEOLOGICAL STRUCTURE.—SOIL.—

The surface of England includes specimens whole extent of the series of ro , fr which are found in the ra m west, to the lowest of the several districts in the south-e ter to these divisions being found i , in pr ing from the west and north towards the east and south.

In Cornwall and Devonshire, eminences of granite, serpentine, and felspar porphyry, occur, while the slopes resting on them are composed of different kinds of slate. The granite of this district is extensively used for paving in London, though considered less hard and durable than that brought from Scotland. The Welsh mountains are composed chiefly of varieties of slate, with some intermixture of volcanic rocks, as basalt and trap; while a rich coal-field, one hundred miles in length and from five to ten in breadth, rests upon their southern verge, extending from Glamorgan into Pembrokeshire, being the largest coal-field in Great Britain. The northern range of mountains is also chiefly composed of slate rocks, there being only one mountain of granite near Shap in Westmoreland.

Between these ranges of mountains and a line drawn from Exmouth through Bath, Gloucester, Leicester, Nottingham, and Tadcaster, to Stockton-upon-Tees, the surface is composed of the lower secondary strata, including rich beds of coal, the existence of which in this situation is mainly what has enabled England to become the first manufacturing country in the world. The eastern parts of the counties of Durham and Northumberland, from the Tees northward to Berwick, form a peculiarly valuable coal-field, of numerous beds, from which the metropolis and other cities in the east of England and elsewhere are supplied with this important mineral. Another coal-field of great value, and that upon which the manufactures of Manchester depend, extends northwards from Macclesfield to Oldham, and thence westwards to Prescot near Liverpool. A coal-field near Wolverhampton, in Staffordshire, is the most valuable in the centre of England: upon it depend the extensive metallic manufactures of Birmingham.

To the east of the line drawn from Exmouth to Bath, and thence by Gloucester, Leicester, and Tadcaster, to Stockton-upon-Tees, we find the upper rocks of the secondary formation, presenting in succession red sandstone and red marl, lias limestone and clay, oolitic limestone, green sand , clay, and finally chal Connected with the red great strata of rock-s are found; these are t ely dug in Cheshire a Worcestershire for dom e. Lias, which extend m Lyme in etshire Whitby in Yorkshire, hle rer hich it presents of th saurian reptiles. Beds of oolite limestone, rom the small egg-like globules contained in i cover he southern part of Gloucestershire, and a gre part Oxfordshire, Northamptonshire, Rutlandshire and the eastern side of Lincolnshire. The Portland stone, so extensively used for building, and which is quarried in the Isle of Portland, belongs to this class of rocks. The chalk exists every where to the south-east of a line commencing near Dorchester on the south coast, and passing through Wilts, Berks, Norfolk, and so on to Flamborough Head—excepting in Sussex and Kent, where it has been carried off by denudation, exposing a peculiar formation called the *wealden*, and in the bed of the Thames near London and one or two other places, where tertiary beds o occur.

re, containing about three parts metal out o four. found in thick veins or vertical beds in the g of Cornwall, where it has been wrought since the conquest of the country by the Romans. Copper-ore is also found extensively in that district generally in continuation of veins, which, in the upper parts, have been composed of tin-ore; and in several of the same veins, lead, zinc, and antimony are found. A mountain of copper-ore, named Parys Mountain, has long been wrought in the Isle of Anglesea, but is supposed to be nearly exhausted. Next in nce to coal, as a mineral product, is iron, which extensively diffused throughout England, though wrought in the neighbourhood of coal, on ac of that fuel being required for smelting it. In 1839, this valuable metal was produced in South Wales to the amount of 380,000 tons. The chief other districts where it is wrought are Staffordshire, Worcestershire, and Yorkshire; the entire produce in that year being a million of tons. In an account of the mineral productions of England, it would be improper to overlook its clay, so extensively used in the manufacture of pottery (chiefly in Staffordshire), and in making bricks and tiles for building.

The great south-east division of England, in which comparatively level surface prevails, exhibits a soil which is either chiefly chalky, or chiefly clayey, according to the character of the substratum. Interspersed are a few sandy tracts, of which Bagshot Heath may be cited as an example. In the mountainous districts, the usual light soil resulting from the early rocks prevails, excepting where, in the north, there has been a peaty admixture. Upon the whole, England may be said to possess a large proportion of good and productive soil. Probably not above one-ninth of the entire surface (Wales being included) is unsusceptible of tillage.

The climate of England is, as already mentioned, remarkable for its exemption from extremes of heat and cold. It displays an uncommon amount of variation within a narrow range. The average temperature in winter is about 42° of Fahrenheit; in summer, the day temperature is generally about 62°. It is only on occasions that the thermometer reaches 80°, or sinks below 20°. The neighbourhood of the sea, which partly accounts for this moderation, is also the cause why the climate of England is more humid than is usual in continental countries of similar latitude. Being inclined to cold and damp, it is more favourable to the growth than to the ripening of vegetable productions. It is certainly not unfavourable to either the physical or moral condition of the people. Perhaps even its uncertainty has been the subject of too much grumbling. On this point we may adduce the cheerful opinion of Charles II., as recorded by Sir William Temple. "We must needs," says Sir Willi , "add one thing more in favour of our climate, h I heard the king s

thought now and right, and truly like a king of
nd that loved and esteemed his own country: it
reply to some of the company that were reviling
imate, and extolling those of Italy and Spain, or
t of France. He said he thought that was the
osate where he could be abroad in the air with
re, or at least without trouble and inconvenience,
ost days of the year, and the most hours of the
and *this he thought he could be in England more
-any other country in Europe.*"[1] Devonshire and
adjacent districts on the southern coast enjoy a
mature which in winter is, at an average, two,
four, and even in some instances five degrees
the rest; and these districts are therefore re-
orded for the residence of persons affected by
nary disease.

VEGETABLE PRODUCTIONS.—ANIMALS.

e most conspicuous feature in the botany of Eng-
is the fresh and luxuriant herbage, resulting from
umidity of the climate, and which, though apt to
overlooked by the natives from familiarity, never
o strike the minds of foreigners with surprise.
rch of the surface was formerly under wood; but
ast few ages been chiefly confined to particular
s, to the neighbourhood of great mansions, and
closures of fields. Several large royal forests
ist in England, the most considerable being New
st in Hampshire (60,942 acres), and Dean Forest
Gloucestershire (23,015 acres). That of Windsor,
h derives from its situation and the poetry of Pope,
ch smaller, being only 4402 acres. These were
ally the scenes of courtly sport, but are now in
reduced to cultivation, or reserved for the pro-
on of timber to be used for the public service. The
around the seats of the nobility and gentry are a
ar and most inviting feature of the English land-
. A mixture of green open glades with masses of
ll-grown timber, they are scenes of great sylvan
y; while the existence of so much pleasure-re-
l ground in a country where nearly every acre
d be profitable under tillage, conveys a strong
ression of the opulence of England. The principal
are the oak, elm, beech, ash, chestnut, sycamore,
r, and willow. The vine was at one time exten-
y cultivated in southern England, but is now seen
in a few detached places.

e leading grain in England is wheat; barley, oats,
ye, being in a great measure local to the less fa-
ed districts. The turnip and potato are almost
y where cultivated; and peas, beans, and clover,
xtensively diffused. Hops are produced in the
ties of Surrey, Worcester, and Hereford. Hemp,
and some other useful productions of the soil, are
conspicuous. The principal fruit-trees are the
, pear, cherry, and plum; but many others are
ised under particularly careful circumstances.
English garden produces a great variety of pot-
, most of which have been introduced from the
nent within the last three centuries.

the useful animals, England possesses a consider-
variety. Her draught-horses are remarkable for
bulk, generally fine condition, and great strength.
rse and riding-horse have been improved by the
ood of Arabia and Barbary. There are excel-
breeds of both sheep and cattle; and the pig is also
nimal in prime condition, and extensively reared.
of the ancient wild animals, as the wolf, boar,
beaver, are now extinct; and others, as the stag
wild-ox, are very rare. The hare, partridge, and
asant, are the chief game animals, grouse being
found, and that in small amount, in some of the
thern wolds. Most of the smaller quadrupeds,
, insects, &c., common in the same latitude, are
d in England. The nightingale is said to be not
d farther north than Yorkshire. The rivers pro-
trout, perch, &c., and the adjacent seas abound
herring, mackerel, sole, pilchard, and other edible
.

Agriculture is, in England, in a progressive state, but is yet not nearly so far advanced as in the better parts of Scotland. Previous to the eighteenth century, no advance had been made from the most simple modes of tillage and husbandry. The chief improvements since then are thus enumerated in a popular work:—"The gradual introduction of a better system of rotation, since the publication of Tull's *Horse-hoeing Husbandry*, and other agricultural works, from 1700 to 1750; the improvement of live-stock, commenced by Bakewell about 1760; the raised-drill system of growing turnips, the use of lime, and the convertible husbandry, by Pringle, and more especially by Dawson, about 1765; the improved swing-plough, by Small, about 1790, and the improved threshing-machine, by Meikle, about 1795. The field-culture of the potato, shortly after 1740; the introduction of the Swedish turnip, about 1790; of spring wheat, about 1795; of summer wheat, about 1800; and of mangel-wurzel more recently, have, with the introduction of other improved field-plants and improved breeds of animals, contributed to increase the products of agriculture; as the enclosing of common field lands and wastes, and the improvements of mosses and marshes, have contributed to increase the produce and salubrity of the general surface of the country."

Mr M'Culloch calculates that twelve millions of acres are cultivated in England as follows:—

	Acres.
Wheat,	2,000,000
Barley and rye,	000,000
Oats and beans,	3,000,000
Clover,	1,000,000
Roots (turnips, potatoes, &c.),	1,500,000
Hops and garden products,	150,000
Fallow,	1,350,000
	12,000,000

The value of the crops is estimated by the same writer at L.72,000,000. He also calculates 17,000,000 acres of pasture-land as producing L.70,000,000.

The chief defects of the agricultural system of England are in the modes of tillage. Cumbrous machinery is employed to do what might be better done by a lighter and cheaper kind: thus, five horses, and even more, are sometimes seen at one plough, while the heaviest lands in Scotland require only two. The virtue of draining is scarcely dreamt of in many districts of England, while in Scotland it is in some places doubling the produce, besides improving the salubrity of the climate. English farmers are too little educated to be ready to adopt improved modes of agriculture; and, amongst the class of landlords, these have hitherto been too much overlooked.* It seems surprising, yet is quite true, that in one district of the island of Great Britain, expensive and unproductive modes, scarcely in the least better than those which prevailed during the wars of the Roses, will be followed, without the least suspicion that they are wrong, although other districts, which might be reached by a day's journey, present appearances of a reflecting skill and dexterity, the general diffusion of which would be attended with incalculable benefit to both landlords and tenants. It is gratifying, however, to know that this state of things is not likely to last much longer. The English nobility and gentry are now supporting an agricultural association, which is to proceed after the manner of the eminently useful Highland Society of Scotland, in promoting improvements in this important branch of the national industry. We may therefore hope, in another

* We have been assured that, in some districts, where the stranger is surprised to see the flail still in operation, the farmers and landlords are not unaware of the superiority of the threshing-machine; but, having only the alternative of supporting the labouring class by this means, or in the condition of paupers, they prefer the former. It is needless to remark, that this is only a misapplication of the powers of the labouring class, which can only tend to increase poverty, and which we may hope to see in time abandoned.

generation, to see the splendid soil of England turned to its full account.

THE PEOPLE—THEIR CHARACTER.

The constituent elements of the English population are to be traced in the history of the country. The first inhabitants were Britons, probably a mixed Celtic race, and who, during the time of the possession of the country by the Romans, must have become slightly changed by the admixture of that race. Upon a scattered population of Romanised Britons came the great wave of the Saxon invasion, in the fifth and sixth centuries. The Britons are usually said to have been driven to the west; but probably this was not so much the case as has been generally thought, for it is rarely that any invasion expels the mass of a people from the ground they have long occupied. After this, however, the predominant element of English society was undoubtedly Saxon, the Norman conquest only adding to it a French aristocracy, which little affected the great bulk of the population. The English, therefore, exclusive of the Welsh, who are Britons almost unchanged, may be regarded as in the main a Teutonic people, an admixture of British or Celtic entering into the composition always in less and less measure as we advance from Wales towards the eastern coasts, where the people are nearly pure Saxon.

According to an acute writer, "the Saxon Englishman is distinguished from other races by a stature rather low, owing chiefly to the neck and limbs being short, by the trunk and vital system being large, and the complexion, irides,* and hair light; and by the face being broad, the forehead large, and the upper and back part of the head round, and rather small. In his walk, the Englishman [understanding by this name the Saxon Englishman] rolls, as it were, on his centre. This is caused by the breadth of the trunk, and the comparative weakness of the limbs. The broader muscles, therefore, of the former, aid progression by a sort of rolling motion, throwing forward first one side and then another. * * * The mental faculties of the Englishman are not absolutely of the highest order; but the absence of passion gives them relatively a great increase, and leaves a mental character equally remarkable for its simplicity and its practical worth. The most striking of those points in English character, which may be called fundamental, are *cool observation*, *unparalleled single-mindedness*, and *patient perseverance*. This character is remarkably homogeneous.

The cool observation of the Englishman is the foundation of some other subordinate, but yet important points in his character. One of the most remarkable of these, is that real curiosity, but absence of wonder, which makes the *nil admirari* a maxim of English society. It is greatly associated, also, with that reserve for which the English are not less remarkable.

The single-mindedness of the Englishman is the foundation of that sincerity and bluntness, which are perhaps his chief characteristics; which fit him so well for the business of life, and on which his commercial character depends; which make him hate (if he can hate any thing) all crookedness of procedure, and which alarm him even at the insincerities and compliances of politeness.

The perseverance of the Englishman is the foundation of that habitude which guides so many of his own actions, and that custom in which he participates with all his neighbours. It is this which makes universal cant, as it has been profanely termed,† not reasoning, the basis of his morals; and precedent, not justice, the basis of his jurisprudence. But it is this also which, when his rights are outraged, produces that grumbling which, when distinctly heard, effectually protects them; and it is this which creates that public spirit, to which, on great emergencies he rises with all his fellow-countrymen, and [illegible] he persists until its result astonish even the [illegible] him.

Now, a little reflection will show, that of the three fundamental qualities mentioned, the [illegible] seeming may be, [illegible] amiable than the [illegible] result shall be useful. To a stranger of different constructed mind, the cold observation, and, in particular, the slowness and reserve which must accompany it, may seem unsociable; but they are inseparable from such a construction of mind, and they indicate not pride, but that respect for his feelings which the possessor thinks them entitled to, and which he would not violate in others. The dignity, therefore, which in this case the Englishman feels, is not *hauteur*; and it is as rarely insolent to those who are below, as timid to those who are above him.

In regard to the absence of passion from the English mind, it is this which forbids one to be charmed with music, to laugh at comedy, to cry at tragedy, to show any symptom of joy or sorrow in the accidents of real life; which has no accurate notion of grief or wretchedness, and cannot attach any sort of meaning to the word ecstacy; and which, for all these reasons, has a perfect perception of whatever is ridiculous. Hence it is, that in his domestic, his social, and his public relations, it is perhaps less affection than [illegible] that guides the conduct of an Englishman; and, if any one question the moral grandeur which this sentiment may attain, let him call to mind the example of [illegible] which, just before the victory of Trafalgar, was given by Nelson in the simple and sublime communication to his fleet—'England expects every man to do his duty.' Which is the instance that equals this even in the forged records of Roman glory? Happily, the excess of hatred is as little known to the English as excess of love; and revenge is abhorrent to [illegible] ture. Even in the pugilistic combat he shakes hands with his antagonist before he begins; he seems to strike him when he is down; and, whether vanquished or victor, he leaves his antagonist neither cast down nor triumphant.

The extraordinary value of such a character is obvious enough. British liberty and British commerce are its results: neither the Scottish nor Irish mind would have attained them."*

In this sketch, though clever and forcible, some conspicuous features of the social character of the English are overlooked. The domesticity of the English mode of life is very remarkable, when taken in contrast with the lounging, open-air existence of continental nations. The Englishman delights in his home, spends much of his time in it—a result to which the nature of the climate undoubtedly contributes. He appreciates his home very highly, calls his house his castle, and prides himself on its being inviolable even by the emissaries of the law. The members of the family, his wife, his sons and daughters, are taken along by him in most of his recreations and pleasures. The conjugal tie is deemed peculiarly sacred, insomuch that the slightest dishonour offered to it is universally resented. It cannot be said, however, that the affections of kindred are much recognised in England beyond the nearest class of relations.

The strong sense of rectitude which animates the Englishman is conspicuous in his love of what he calls *fair play*, which he carries even into these coarse amusements, boxing, cock-fighting, dog-fighting, the love of which (now fast declining) forms one of the amiable traits of the national character. His benevolence shines in the liberality of the legal provision for the poor, and in the numberless charitable institutions of all kinds which are supported in the country, as well as in the readiness which the nation has always displayed to hold out a hand of succour to distress in all quarters of the world. Cleanliness of person and household, and a love of comfort both in food and in dress

* Blackwood's [illegible] paine, 1829.

* Plural of iris, the coloured part of the eye, surrounding the pupil.

† The word must not here be understood as implying hypocrisy, of which the Saxon temperament is very innocent.

...nsel-tion, distinguish the people at large. In all ...eal and domestic circumstances, the substantial is ...strongly in view, even while the ostensible object ...moves. The aristocratic institutions of the coun... have mixed, with the sturdy independence of the ...ish character, a considerable reverence for exter... and accidental distinctions, and created a disposi... pervading almost all classes, to hold forth appear... rather above than below their means. For the ... reason, as well as that abstract truths are not ...ly apprehended by the English intellect, there is a ... and general disposition to cling to ancient prac... and forms in both government and law. The rural ...ry and the tradesmen of the smaller towns are ...ally subservient to the landed classes; and it is ...y in large towns that new political dogmas find ...arm advocacy.

...se-racing and field-sports are the chief amuse... of the nobility and gentry, and are practised upon ...e so extensive, and with apparatus so perfect in ... parts, including a breed of horses of the highest ...mics, that they would probably be considered by ...igner as amongst the most remarkable features ...glish life. Amongst the upper and middle classes ...ally, the pleasures of the table are much, perhaps ...ssively, cultivated; dinner, in particular, being gen... followed by an abundance of the wines of Portugal, ...ain, and Germany. The lower classes also live, ...eral, on substantial fare; their favourite beve... are ale and porter; while quoits, cricket, and ...ing, may be described as their most common ...sements.

...HISTORY OF POPULATION.—HEALTH AND LONGEVITY.

...e population of England in the time of the Plan... sovereigns, is believed to have been little more ...n two millions. It has been estimated at 5,500,000 ...06. The progress during the greater part of the ...eenth century was slow; the amount in 1760 is ...med to have been about 6,500,000. In 1801, for ...first time, a regular census was taken; and this has ...n repeated once in ten years ever since, giving the ...wing results:—

1801,	9,472,980	1841,	15,978,575
1811,	10,150,615	1851,	17,934,569

...census to be taken during the year in which this ...k is published, will probably give not less than ...0,000, being nearly a doubling since the beginning ...e present century. The rapid advance of our po... is placed in a striking light, when we consider ..., for the United Kingdom, it is nearly a thousand ...day. Within the last ten years, emigration has ...n proceeding on a scale of unprecedented magni...; yet, even in the years during which it has been ...t active, it has not been sufficient to drain the coun... one-third of the rate at which its population has ...n increased by new births. This rapid increase of ...bers clearly shows that, whatever partial evils there ...be in the condition of the people, the country must ...e the whole have enjoyed for forty years a high ...e of prosperity; for it is quite insupposable that, ...t stationary resources, so many new mouths could ...e been fed, unless there had been, what certainly ...e has not been, a large and general deterioration ...e style of living. It is to be remarked, however, ...t an immigration to a great extent from Ireland has ...n going on for about twenty years, and that gene... the Irish settlers continue in England to live in ...le little superior to that which they followed in ...r own country.

...The increased population has chiefly taken place in ... manufacturing towns. It was calculated by Mr ...Culloch, in 1831, that nearly a third of the people ...e in towns of above 10,000 inhabitants. Most of the ...e cities have experienced a rapid advance of popu... within the last twenty years. These circumstances ...e to show that it is the development of the manu...ring, and not of the agricultural energies of the country, which has mainly tended to increase the population. In 1831, it was ascertained that the total number of persons, above twenty years of age, engaged in any kind of business or professional employment, was 3,594,699. Of these, 1,075,912 were engaged in agriculture; 1,327,727 in trade and manufactures; and 931,031 in other pursuits. Of the last number, 185,187 were capitalists, bankers, and professional and other educated men. In this part of the account we also find the army and navy, and male servants. "It may thus be seen," says an intelligent writer, "how very small is the number of persons arrived at maturity, who are not employed in some one or other of the occupations whereby the sum of the national wealth or convenience is advanced."

With regard to the rate of mortality in England, no certain conclusions were in the hands of the public till the commencement of a general registry of births, marriages, and deaths, in 1838–7. In the first year of the operation of this system, the burials were 335,956, which, if we suppose the population to have then been fifteen millions and a half, would give 1 in 46 per annum as the rate of mortality for the whole country, being considerably more than previous imperfect calculations had made it. There are considerable local variations in the rate of mortality, in accordance with peculiar circumstances. In the last half of the year 1837, the deaths out of 3,553,161 persons, living in large cities, were 47,953; and out of 3,500,751 persons living chiefly in rural situations, only 34,074, or as nearly 34 to 47. For this so much greater mortality in cities, we must look, first to that custom which prevails of retiring in old age and sickness from country to town, and, secondly, to the filth, deficient ventilation, destitution, and vicious habits of life, which prevail in large towns. It is remarkable that London is healthier than most of the other large towns. The proportion who died at 70 out of 1000 persons, was in London 104; but in Birmingham it was 31, in Leeds 79, and in Liverpool and Manchester only 65.

Out of 1000 deaths in the counties of Dorset, Devon, and Wilts, and in Wales, 180 are of children under one year; but in Leeds and its neighbourhood, in the mining districts of Staffordshire and Shropshire, and in the fenny lowlands of Lincoln, Cambridge, and Huntingdonshire, the number was 270, giving token of a great local discrepancy in the sanitory condition of the English population. After deducting the diseases of infancy, the most fatal maladies in England are consumption, fever, and dysentery. One-eighth of the whole deaths, subject to the above deduction, are ascribed to the first of these diseases.

REMARKABLE NATURAL SCENERY—NATURAL CURIOSITIES.

The natural scenery of England is generally of a pleasing rather than a grand or picturesque character; yet there are some portions of the country which are considered attractive on account of their romantic beauty. We shall notice the chief of these.

The Cumberland Lake Scenery.—The south-west part of the county of Cumberland and the north-west part of Westmoreland, comprehend a range of lofty mountains—Skiddaw, Saddleback, Helvellyn, and some others of scarcely less note—amidst which lie the lakes for which this district of England has long been celebrated. The largest of these are Ullswater, Thirlmere, Derwentwater, and Bassenthwaite; but some of less size, as Buttermere, Crummockwater, Loweswater, Ennerdale, Wastwater, and Devock-lake, are scarcely less admired. The vales or passes amongst the hills likewise contain much beautiful scenery of a wild character, although perhaps only traversed by a brawling mountain rill.

The combination of alpine wildness and grandeur, with the soft scenery which reposes in clothed slope and mirror-like lake at the bottoms of the hills, is what gives the Cumberland scenery its principal charm. Ullswater, which extends into Westmoreland, is thought to possess the greatest beauty: it is about

nine miles in length, but nowhere more than one in breadth. Derwentwater (often termed Keswick Lake, from its vicinity to the town of Keswick), which

Derwentwater or Keswick Lake.

measures three miles in length by one and a half in breadth, is only inferior to Ullswater. Mrs Radcliffe, the eminent novelist, describes it as having peculiar charms, both from beauty and wildness. "The whole is seen at one glance, expanding within an amphitheatre of mountains, rocky but not vast, broken into many fantastic shapes. The precipices seldom overhang the water, but are ranged at some distance; and the shores swell with woody eminences, or sink into green pastoral margins. The bosom of the lake is spotted by several small but well-wooded islands."

Amongst the *passes*, that of Borrowdale is the most remarkable: it is a narrow chasm opening from the centre of the amphitheatre which terminates the expanse of Derwentwater, and traversed by the vehement little stream of the same name. Near the entrance of the pass is a detached mountain called Castle-Crag, with a peaceful village reposing at its foot; and opposite to Castle-Crag is the *Bowderstone*, a huge mass of rock, which has apparently fallen from the neighbouring cliffs, and round whose base the road is made to wind. It is computed that this enormous boulder is not less than 1800 tons in weight.

The lake scenery of Cumberland has by its beauty attracted a great number of permanent residents, whose villas enter pleasingly into its landscapes, and amongst whom the present age has seen several eminent literary men—Southey, Wordsworth, &c. It also attracts an immense number of tourists from all parts of the kingdom.

The district usually called *the Lakes* may be said also to comprehend a small northern and nearly detached portion of Lancashire, where Windermere and Coniston Water are sheets rivalling in extent and beauty those of Cumberland.

The Derbyshire Peak Scenery.—The termination of the great northern range in the north of Derbyshire, presents, in that district, a collection of rugged hills and narrow valleys, amidst which some of the most romantic scenery in England is to be found. A particular portion of it, near the village of Castleton, is termed the Peak Scenery, from a particular eminence or peak which attracts more than usual attention.

The *Peak* is approached through a rude and savage pass, named *Winyats* (*q. d.* gates of the winds), flanked with precipices 1000 feet high. It is a limestone mountain, and perforated, as mountains of that kind of rock often are, with an immense cave. On the top are perched the remains of a castle, once the residence of a family descended from William Peveril, a natural son of the Conqueror. In the precipice below, above 600 feet from the top, is the entrance of the cave, a flattish Gothic arch, 120 feet wide and 46 in height. Within this arch the cavern recedes about 90 feet. *Here a company of* twine-makers pursue their humble trade. *At the extremity of the first cave, which alone enjoys any of the light of day*, a low and narrow arch leads *into a spacious opening*, called "the Bell-house," whence a path leads to the "First Whale." The lake 42 feet in breadth, passing below it [illegible] of rocks, in some places not more than 20 feet from the surface of the water. Laying himself flat in the bottom of a small canoe, the visiter with his guide passes through below the depending rocks into an open space 60 feet in length, 200 in breadth, and 121 in height. At the further extremity of this spacious cavern, the stream which flows along the bottom forms itself into a lake called "the Second Water," near the end of which is a pile of rocks subjected to a perpetual copious shower from the roof, and called "Roger Rain's House." Other passages and expansions succeed, till the cave becomes impassable at the distance of 2360 feet from the opening. On returning from his torch-lit adventure to the mouth of the cave, the visiter usually experiences a singular impression of novelty and delight from regaining again the surface of the daylight world.

Entrance to the Peak Cavern.

The scenery adjacent to the neighbouring town of Buxton is also much celebrated. One of the most remarkable objects is *Elden's Hole*, a perpendicular opening into which a line has been dropped to the extent of 1200 feet without finding the bottom. *Poole's Hole* is also remarkable for its magnificent stalactites. A number of beautiful valleys, situated amidst rugged mountains, lead to the romantic one of *Matlock*, where the banks of the Derwent are bordered by extensive woods, intermingled with the boldest and most varied forms of rock. A wilder character is the celebrated *Dovedale*, through which River Dove traverses a pass of two miles in length, of the most striking character. The sides of the valley are chiefly composed of rocks of grey limestone, which, in their abrupt and towering ascent, present innumerable fantastic forms—spires, pyramids, &c.—and are clothed with yew-trees, the mountain ash, and numerous mosses and lichens.

The Isle of Wight.—This island, situated off the coast of Hampshire, and measuring twenty-three miles by about thirteen, is celebrated both for its mild climate and its beautiful scenery. From the high ground formed by a range of chalk hills in its centre, delightful views, mingling the bold objects of the sea-line with the sail-studded English Channel, are obtained. The south shore is the most noted for its romantic objects, the most remarkable of which is at Shanklin. Here a great chalk cliff has at one time been continued to the sea; but, afterwards undermined by the action of the waves, a large portion of it has fallen in huge vast fragments, leaving a new cliff at the distance of half a mile from the shore. In the interval between the beach and the cliff, the fragments are scattered in confusion, many of them forming eminences of picturesque forms, while the intermediate space affords room for cottages and villas, and even at one point a small rising town, nestling amidst the most luxuriant shrubbery, natural and artificial. This district, viewed from the sea, appears a series of gigantic steps rising from the beach towards a great perpendicular wall. The cliff in several places opens in vast chasms, locally termed *chines*, which are usually clothed with picturesque vegetation, and the most admired of these are those of Shanklin and Blackgang. The

believed that they were the temples of the Druids. The most remarkable Druidical circle is that of *Abury*, six miles from Marlborough, in Wiltshire: there is an outer circle, 1400 feet in diameter, composed of stones generally about 16 feet in height, with a distance of 27 feet between every two. There are small concentric circles within the large one, and in the centre of all is a cromlech or altar for human sacrifices, composed of one long flat stone, supported by two upright ones. Two straight avenues of approach, about a mile in length, were composed of similar blocks, and on the outside of the outermost circle there was a vallum or bank, the inner slope of which was perhaps a place for spectators. From the encroachments and carelessness of the neighbouring inhabitants during a long course of ages, this curious relic of the British people is much dilapidated. Another Druidical circle of great note is that of *Stonehenge*,

Remains of Stonehenge.

upon Salisbury Plain, a district also presenting many small and other vestiges of the Britons. The Stonehenge temple, in its perfection, consisted of 140 stones, arranged in two concentric circles, the outermost 108 feet in diameter, with similar stones laid flatwise along the tops of the upright stones. The blocks which remain are from eighteen to twenty feet high, and about seven feet broad. Within the inner circle are two oval ranges, supposed to have formed the *adytum* or cell, and which consist of stones about thirty feet in height. The remains of this stupendous temple, ruined and shattered as they are, still produce a sensation of awe upon the mind of the beholder.

Roman Remains are now rare and nearly obliterated. The roads formed by this people have in some instances been changed into our present comparatively broad and well-formed ways; in other cases, slight traces of their original pavement, which generally consisted of large stones forming a causeway, are to be found. Between Newcastle and Carlisle are the remains of the two walls built respectively by the Emperors Adrian and Severus, in 120 and 210, to keep out the northern barbarians: the first being a high mound of earth, and the second a rampart of stone, 68½ miles long, running parallel to the first, on the outside. Remains of Roman camps, bridges, villas, baths, &c., also exist in various parts of England. All the towns, the names of which terminate in *chester* or *cester*, are considered as having been originally Roman stations. Near St Albans are the remains of the walls which once surrounded the Roman town of *Verulamium*, the site of the town itself having long been subjected to the plough.

Several of the small churches built soon after the introduction of Christianity still exist, and continue to be used as parish churches. The larger churches connected with monastic establishments, and the cathedrals, which were the seats of bishops, took their rise at a later period, chiefly during the twelfth and thirteenth centuries. This was a time when an enthusiasm existed for founding and endowing monasteries and churches. To it we are indebted for many superb minsters, the solemn beauty of which continues to be a proud possession of our land. Westminster Abbey, York Minster, and the

cathedrals of Winchester, Lincoln, Gloucester, Canterbury, Litchfield, and Salisbury, may be instanced as particularly august specimens of the Gothic style in which all ecclesiastical structures were then built. There are also many ruinous remains of the great abba-

Glastonbury Abbey.

cies of the middle ages: those of Tintern, near Monmouth, Glastonbury, near Wells, and Bury St Edmund's, are of famed beauty. A kindred class of antique structures exist in what are called *crosses*, which consist generally of an elegant tapering Gothic erection, with a small shrine below, and were in most instances erected to hallow the spot on which the remains of venerated persons rested on their way to the tomb.

Caernarvon Castle.

Of the huge castles built by the Norman nobility and by the sovereigns during the first few centuries after the conquest, many specimens still exist, but few which are not in ruins. The Tower of London, built by the Conqueror himself, is an entire and most superb example of this class of structures. Conway and Caernarvon Castles, which, with several others, were raised to overawe the then independent principality of Wales, are also noble specimens. Others may be found in the north, as Lancaster, Carlisle, Newcastle, and Rugby. They usually consist of a great square tower, with ranges of lesser towers, and the whole surrounded by thick and lofty walls, beneath which there was generally a moat or wet ditch. Dover Castle, placed on the top of a lofty cliff overlooking the English Channel, and still kept in good order, is a peculiarly interesting specimen of the Norman fortress.

MANSIONS.

England abounds in mansions in various styles, the seats of her nobility and gentry. Some of these reach a high degree of splendour, both in architecture and internal furnishing, not to speak of the delightful sylvan domains by which they are generally surrounded.

A certain class of English mansions may be described as engrafted upon the fortresses of the middle ages, or upon the priories and abbeys disused at the Reformation. *Warwick Castle*, the seat of the Earl of Warwick, *situated upon a rock forty feet* above the River Avon, *and Alnwick Castle, in Northumberland*, the seat of the *Duke of Northumberland*, are splendid examples of the first class of edifices. The area of the latter building "is divided into three courts, entered through gateways formed in lofty towers. The keep, or citadel, of vast magnitude, and acquires some peculiar grandeur of architectural beauty from 'fair semi-circular towers which protect and adorn it on every side.'" *Newstead Abbey*, in Nottinghamshire, the seat of the late Lord Byron and of his ancestors, may be instanced as a beautiful and impressive example of the domestic mansion founded upon the remains of a monastic building.

There is a class of old mansions which appear to be peculiar to England, and are usually called *Halls*. They date in many instances from the sixteenth century, but may be supposed to have been the favourite form of domestic architecture in the days of the first Tudors. *Haddon Hall*, near Derby, belonging to the Duke of Rutland, is an unusually handsome specimen of this class. They generally present a front, of irregular form, advancing into prominent bows with many windows, and constructed of brick upon a fantastic timber-shaped framework of timber, the exterior of which is left exposed and painted. A variety of angular projections break the line of the roof, and give scope for much carved wood-work. In the interior there is always a goodly hall of oak, with a dais floor, a huge set of oaken tables, and a spacious fire-place. Mr Nash has published a beautiful work, containing views and descriptions of the most remarkable of these charming old mansions, so rich in old-world associations.

Another large class of English mansions are of the style which prevailed in the seventeenth century, and which comprehends many substantial as well as decorative features. Elegant fronts of polished stone, with traces of turreting, ornamented square windows, and tall angular chimney-stalks, strike an untechnical spectator as the principal features of this style, usually called Elizabethan. *Holland House*, Kensington, and *Theobalds*, the seat of the celebrated Secretary Cecil, present apt examples.

The houses built in the last century were chiefly in the Grecian style, more or less pure. Some of the productions of Mr Adam present beautiful examples—for instance, *Keddlestons House*, the residence of Lord Scarsdale, near Derby, the front of which is a line of 360 feet, comprehending a central and two lateral masses connected by low corridors, and universally admired for its classic purity and grace. *Chatsworth*, the seat of the Duke of Devonshire, near Derby, is another magnificent mansion of this class.

Within the last fifty years, houses have been built in various styles, imitative of modes long ago fashionable. The castellated, the Elizabethan, and the Grecian, have all had their admirers. It is also common now-a-days to build houses from the foundation in the manner of those Gothic priories and abbeys which were originally designed for purposes so different.

Eaton Hall, the seat of the Marquis of Westminster, situated near Chester, may be considered as a prime example of the modern Gothic. It comprises, besides other apartments, an entrance-hall, paved with variegated marbles, a music-gallery, adorned with two fine pictures by West, a saloon, decorated with some beautiful specimens of stained glass, and a library. This magnificent mansion is much visited by strangers on account of its architectural beauty, its splendid furniture, and the vast number of interesting objects assembled in it.

CITIES, TOWNS, &c.

It has already been seen that a large part of the population of England is collected in cities and towns of considerable size. Some of these may be classed under the separate heads of manufacturing and commercial towns, while others are either university towns, naval stations, cathedral towns, or towns for summer recreation or the residence of persons in independent circumstances. The cities and towns of England are of great number, and, though often of plain outside

…ale an immense amount of wealth. The prevalence …ork in domestic buildings, and of the smoke arising …m coal fires, gives a peculiar character to English …es. In all, however, there are numerous churches …ellow public edifices, and in some there are many …ete front of stone.

…or an account of the capital of England, which …es the manufacturing, commercial, educational, and …rely characters in one, we must refer to a sepa… article, following the present.

Manufacturing Towns.

…d the head of these stands *Manchester*, the chief …e of the principal manufacture of England—that of …on. This town is situated on the River Irwell, in …south-east district of Lancashire, at the distance …182 miles from London. Inclusive of Salford, a …rate municipality on the other side of the Irwell, …also comprehending a few connected villages, Man…ster contained in 1851 a population of 379,393, …probably increased to 340,000. The ground on …h it stands is a perfect level, and, from whatever …it is approached, its crowd of spires, towers, manu…ories, and warehouses, appears mingling with the …ke that hangs over it. The older part of the town …ters round the collegiate church, an elegant and …ense structure of the time of Henry VII., or ex…ts in the ancient street called Deansgate. The busiest …mercial street is Market Street, and the most ele…t is Mosley Street. The town contains most of the …al public buildings to be found in one of its size—a …n-hall, infirmary, prison, exchange, &c., besides …eral institutions of a literary and scientific character; …several of these buildings, particularly the two first, …of remarkable elegance. A botanic garden, about …ile from the outskirts of the town, is a great orna…nt, and forms a most delightful as well as instruc…e place of reservation. There is also a zoological …den.

…The factories of Manchester exceed a hundred and …enty in number: they employ between thirty and …y thousand persons, and steam enginery equal in …wer to five thousand horses. About four-fifths of …e cotton manufacture of the kingdom centres in Lan…shire, and of this a large proportion is confined to …nchester. The woollen, linen, and silk trade, parti…larly the last, and many smaller manufactures, as of …s, pins, umbrellas, &c., are also carried on to a large …ent in this town. It may be added, that the making …machinery has of late years become a thriving trade …Manchester.

…Manchester is connected with its port Liverpool by …ailway, and, by means of the Irwell and numerous …nals, it transports and receives goods to and from …ery parts of the kingdom. (See article CANALS AND …AILWAYS.)

…The above may be considered as an outline of this …at seat of manufacturing and commercial industry. …ould to describe the bustle of waggons and human …ings on its streets, to detail the vast mercantile trans…tions in which it is engaged, or describe its numerous …ctories and workshops of various kinds, would re…ire a separate volume. In the way of details, we …n only afford room for a description of two or three …rking establishments, which we find in a neat local …lume, entitled *Manchester as it is*:—

"Many of the mills are immense buildings, raised to …e height of six, seven, and eight storeys, erected at …e expense of many thousands of pounds, and filled …th machinery costing as many more. The capital …ed in a single mill will sometimes be £50,000, and …equently is as much as £100,000. Some of the mills …ntain nearly 2000 hands. A visit to one of the largest …lls, if an introduction can be procured, is a gratifying …ast. The rooms are kept in the most perfect state of …eanliness, and the strictest order and regularity pre…ail. Every operation is performed by rule, and the …bdivision of labour is carried out in the most minute …anner. The *mills and factories are of various sorts*, namely, cotton spinning-mills, silk spinning-mills, woollen spinning-mills and factories, small-ware factories, and power-loom weaving factories.

Amongst the cotton mills, one of extraordinary extent, belonging to Messrs Birley & Co., is situated in the suburb called Charlton-upon-Medlock. It consists of a group of buildings, upon which, including machinery, several hundred thousand pounds have been sunk. The number of hands employed by this firm is 1600, whose wages annually amount to the sum of £40,000. The amount of moving power is equivalent to the labour of 397 horses. The number of spindles in the mills is about 90,000. The annual consumption of raw cotton is about 4,000,000 lbs. weight! The annual consumption of coal is 9000 tons. It will perhaps excite surprise in a person unacquainted with the nature of machinery, when informed that the annual consumption of oil, for the purpose of oiling the machinery, is about 3500 gallons; and the consumption of tallow, for the same purpose, 50 cwt. The annual cost of gas is £900. One room alone, belonging to this firm, contains upwards of 600 power-looms. Besides the hands engaged in the cotton department, the following description of mechanics are employed in this mill:—Millwrights, mechanics, joiners, bricklayers, plumbers, painters, moulders, turners, and smiths.

The establishment in which the fabric is manufactured for waterproof clothing, such as '*Mackintosh Cloaks*,' belongs to Messrs Birley & Co., and is a part of their concern. The number of hands employed in this business varies from 200 to 300. The immense amount of 250,000 lbs. weight of Indian rubber is annually consumed in the process of manufacture, to dissolve which 100,000 gallons of spirits are employed.

In the establishments called small-ware mills, of which there are several in Manchester, the articles of cotton, worsted, and silk tapes, are very extensively manufactured. To trace the various processes a piece of tape passes through, and the various employments it affords, before it comes into the market, is a very curious and interesting occupation. Beginning, then, with the first commercial operations—The cotton used in the manufacture of tapes, having been warehoused in Liverpool, is sold on account of the importer, and bought to the order of the manufacturer by cotton-brokers. It is conveyed by canal or railway to Manchester; and when delivered at the works of the purchaser, is weighed, assorted, mixed, and spread, with a view to obtain equality in the staple. It is then taken to the willowing-machine to be opened and rendered floculent; thence it is transferred to the blowing-machine, which cleanses it from dust and makes it feathery. Attached to the blower is a lapping apparatus, by which the cotton is taken up and laid in a continuous fleece upon a roller, in order that it may be conveniently carried to the carding-engine, there to be made into a fleece of the most equable texture possible; thence it is handed to the drawing-frame, where it is blended with the production of all the carding-engines connected with the particular set or system to which it belongs. It is next passed through the slubbing-frame, afterwards through the jack or roving-frame, and then through the throstle or spinning-frame, upon which it is made into yarn or twist. From the throstle, the yarn, if intended for warp, is forwarded to the winding-frame, but if intended for weft, to the reeler; afterwards, that which is wound is delivered to the warper, that which is reeled, to the pin-winder. The weaver next operates upon it, passes it through the loom, rubs up the tape, and consigns it to the taker-in, who examines the fabric, and transfers it to the putter-out, who sends it to the bleacher. When bleached, it is handed to the scraper, whose business it is to take out the creases, and open the tape, by running it under and over iron-scrapers. This having been done, the piece is put through the callender, when it is pressed between hot bowls and rendered smooth and glossy. It is next taken to the lapping department, where it is neatly folded by young women, after which the maker-up

forms the pieces into parcels, containing the required quantity, and places them in a powerful press to make them compact. He next papers them, and sends them to the warehouse for sale.

Some idea of the extent to which this manufacture is carried on in Manchester, may be formed from the fact, that, at the works of Messrs Wood and Westheads, upwards of 1,240,000 yards of goods, not exceeding three inches in width, and composed partly or entirely of cotton, linen, silk, or worsted, are woven in *one week*, or upwards of 35,227 *miles* in *one year*.

One of the principal establishments in the department of steam-engine making and engineering, is that belonging to William Fairbairn, Esq., situate in Canal Street, Great Ancoats Street. To persons unacquainted with the nature of working in iron, an admission into these works affords perhaps the most gratifying spectacle which the town can present of its manufactures in this metal. Consequently, almost every person of distinction visiting the town contrives to procure an introduction to the proprietor before leaving it. In this establishment the *heaviest* description of machinery is manufactured, including steam-engines, water-wheels, locomotive-engines, and mill-gearing. There are from 550 to 600 hands employed in the various departments; and a walk through the extensive premises, in which this great number of men are busily at work, affords a specimen of industry, and an example of practical science, which can scarcely be surpassed. In every direction of the works the utmost *system* prevails, and each mechanic appears to have his peculiar description of work assigned, with the utmost economical subdivision of labour. All is activity, yet without confusion. Smiths, strikers, moulders, millwrights, mechanics, boiler-makers, pattern-makers, appear to attend to their respective employments with as much regularity as the working of the machinery they assist to construct.

In one department mechanics are employed in building those mighty machines which have augmented so immensely the manufacturing interests of Great Britain, namely, steam-engines. All sizes and dimensions are frequently under hand, from the diminutive size of 8 horses' power, to the enormous magnitude of 400 horses' power. One of this latter size contains the vast amount of 200 tons or upwards of metal, and is worth, in round numbers, from £5000 to £6000.

The process of casting metal is conducted here on a very large scale. Castings of 12 tons weight are by no means uncommon: the beam of a 300 horses' power steam-engine weighs that amount. Fly-wheels for engines, and water wheels, though not cast entire, are immense specimens of heavy castings. A fly-wheel, for an engine of 100 horses' power, measures in diameter 26 feet, and weighs about 35 tons. In this establishment some of the largest water-wheels ever manufactured, and the heaviest mill-gearing, have been constructed; one water-wheel, for instance, measuring 62 feet in diameter. The average weekly consumption of metal in these works, in the process of manufacturing, owing to the quantity of wrought-iron used, and the immense bulk of the castings, is 60 tons or upwards, or 3120 tons annually.

This extensive establishment forwards its manufactures to all parts of the world. The stranger is told, on inquiry, that *this* article is for Calcutta, *that* for the West Indies; this for St Petersburgh, that for New South Wales; and there are, besides, men belonging to it *located* in various parts of Europe, who are employed, under the direction of Mr Fairbairn, in superintending the erection of work manufactured on these premises."

Leeds, the chief town for the manufacture of cloths, is situated in the West Riding of Yorkshire, on a slope gently rising from the River Aire, at a distance of 189 miles from London. It contains a few streets of handsome houses, but as in many other English manufacturing towns, utility appears to be more in contemplation than ornament or elegance. The population in 1831 was 123,393. There are some goodly public structures as *court-house*, *commercial* buildings, theatre, &c., and the town enjoys the benefits of a liter philosophical society, an institution for the pr of the fine arts, and several public libraries.

Leeds is the centre of a large district devote making of mixed and white cloths. Cloths fabric, and blankets and carpets, are also made considerable quantity; but the mixed and whi form the staple of the business of the distri mode in which these are sold in Leeds, gives for the existence of two public buildings of peculiar nature. They are called respectively th Cloth Hall and the White Cloth Hall. A des of the former, from a popular work, will convey of both. "The Mixed Cloth Hall was erected at the general expense of the merchants. It is rangular edifice, surrounding a large open are which it receives the light abundantly, by a gre ber of lofty windows; it is 128 yards in length in breadth, divided in the interior into six depa or covered streets, each including two rows of amounting in number to 1800, held as freeh perty by various manufacturers, every stan marked with the name of the proprietor. Thi exclusively appropriated to the use of persons w served regular apprenticeship to the trade or of making coloured cloths. The markets are Tuesdays and Saturdays, and only for an hou half each day, at which period alone sales c place. The market-bell rings at six o'clock morning in summer, and at seven in winter, w markets are speedily filled, the benches cover cloth, and the proprietors respectively take their the bell ceasing, the buyers enter, and proce secrecy, silence, and expedition, to bargain for t they may require, and business is thus summaril acted, often involving an exchange of property amount. When the time for selling is termina bell again rings, and any merchant staying in after it has ceased, becomes liable to a penalt hall is under the management of fifteen truste hold their meetings in an octagonal building, near the entrance to this hall."

Huddersfield, *Wakefield*, *Saddleworth*, *Halif Bradford*, all in Yorkshire, and *Rochdale* in Lan are other towns noted for their concern in th manufacture, but of inferior population, and no guished by any remarkable features. *Axminst derminster*, *Ashton*, and *Wilton*, are the chief the carpet manufacture. *Bradford*, in Wiltshire tinguished for superfine cloths.

Birmingham, the chief town in the kingdom i in metallic manufactures, is situated in Warwi at the distance of 109 miles from London. Th part of the town consists chiefly of old build crowded with workshops and warehouses, and buted principally by manufacturers; but the upp has a superior appearance, consisting of new an lar streets, and containing a number of elegan ings. Amongst the public buildings, the town-h for particular notice, being a magnificent struc the Corinthian order, in the proportions of the of Jupiter Stator at Rome. The population of B ham in 1831 was 146,986, being all, except a sm tion, engaged in trade and manufactures.

Amongst the principal manufactures are but immense variety, buckles, cloak-pins, and snuff toys, trinkets, and jewellery; polished steel watch corkscrews, &c.; plated goods for the dining a table, now in the way of being superseded by goods of mixed metal; japanned and enamelled a brass work of every description; swords and fir medals and coins of various kinds; copying m and pneumatic apparatus; grates, fire-irons, g burners, nails, and steel-pens. Besides almost metallic article which can be considered as u useful, or ornamental, cut crystal is produced to extent, while certain branches of the cotton tra nected with hardware, as the making of the cl umbrellas, braces, girths, &c., have also fixed

s here, in order to facilitate the preparation of
e articles.
he operations of the Birmingham manufacturers
carried on chiefly by means of foundries, rolling
, die-stamping machines, and turning-lathes. From
nufactories proceed all heavy iron goods, and even a
derable quantity of small wares, though the work
ired in trimming these articles after they leave the
causes a constant tendency towards the use of the
tamp in preference. By the latter machine, not
ons, buttons and other small articles produced, but
ther exceptional decorative articles of many various
s, to which it might be supposed that the process
inapplicable. The rolling mill is a ponderous
ne, for pressing out ingots of metal into sheets of
ious thickness. The lathe, a conspicuous machine
e workshops of Birmingham, is used for the pre-
tion of articles of correctly circular, and also of
form. It is usually driven by steam; and in many
ases this power is not generated in the premises
ose who use it, but is obtained for a rent from some
n kept by a different individual in the neighbour-
.
give an idea of the extent of some branches of
, and the activity of some kinds of machinery at
ingham, it may be stated that, at the pin-works,
years ago, 12,000 pins could be cut and pointed,
,000 pin-heads made from the wire, in an hour;
there is a coining-mill which produces between
and forty thousand pieces of coin in the same
; and that, from 1805 to 1815, 5,000,000 strands of
were made for public and private service. The
ng of steel-pens, which, before 1821, was scarcely
n, is now a great manufacture. Probably not less
10,000,000 are made annually. There is one in-
al in the trade who employs 250 persons, and
mes every year upwards of forty tons of metal.
article was originally sold at the rate of one shil-
each pen; and now, from improvements and faci-
in the manufacture, 144 are sold at the same
y.
effield, in the West Riding of Yorkshire, ranks only
ad to Birmingham as a seat of metallic manufac-
. It is a town of above 100,000 inhabitants, great
of whom are engaged in the business for which
field is remarkable. The situation of the town,
a swelling piece of ground near the confluence of
Sheaf and Don, gives it health and cleanliness, but
the newer streets and suburban villas are neat, and
town is constantly involved in the smoke arising
the manufactories. A music-hall, post-office, and
cal hall, together with a building called the Cutlers'
, in which the members of that trade meet for an
al banquet, are the chief public buildings boasting
y elegance of exterior.
effield was famous in the middle ages for producing
s and arrow heads. From such small beginnings,
vanced in the course of ages to its present distinc-
. An immense quantity of knives, scissors, imple-
s of husbandry, and surgical and mathematical
ruments, is now made in it. The manufacture of
, and of goods in imitation of it, as also of car-
ers' tools, printing types, haircloth, and many other
les, is carried on to an immense extent. The
nufactures of Sheffield have the peculiarity of being
y in the hands of men of moderate capital and
ted business, though there are also a few houses
h engross a vast quantity of the principal trade.
establishments for the grinding and polishing of
ery are among the most striking objects of curiosity
stranger; and the show-room of the Messrs Rogers,
rs to the late king, is a splendid museum, where
the local manufactures may be seen, of the best
ity, and in the finest order.
entry, an ancient city in Warwickshire, 91 miles
London, is a great seat of the manufacture of
ds, and also of watches. Some other manufac-
s, carried on to a great extent in the last century,
ding gauzes and calimancoes, have declined, leav-
ing these alone flourishing. The population in 1831 was 27,070, all except a small portion being engaged in trade and manufactures.

Coventry is an ancient town of note, and contains, besides some good modern public buildings, an old church of remarkable beauty as a specimen of Gothic architecture, and a very curious old hall (St Mary's Hall), used for festive purposes, having a grotesquely carved oak roof, and a piece of tapestry, wrought in 1450, measuring 30 feet by 10, and containing 56 figures. The town was remarkable in early ages for the performance of the grotesque religious dramas called Mysteries, and for the shows and pageants which took place in celebration of the visits of royal personages. One pageant of an extraordinary character has been performed annually ever since the reign of Charles II. It is designed to commemorate a real or imaginary incident, which is thus related: Leofric, Earl of Mercia, who possessed the property of the tolls and services of Coventry, exacted his dues so rigidly, that the inhabitants were greatly aggrieved, and at length Godiva, his pious wife, became their advocate. The earl, wearied by her solicitations, promised to grant her request, if she would ride naked through the town at mid-day. His terms, according to the legend, were accepted, and the countess rode through the town with no covering but her flowing tresses. It is added, that she had modestly commanded every person to keep within doors and away from the windows, on pain of death, but that one person could not forbear taking a glance, and lost his life for his curiosity. The procession commemorative of this occurrence includes the whole of the officials of the corporation, besides a female of easy purchase, who rides in a dress of linen closely fitted to her limbs and coloured like them. The curious person who stole the glance is called *Peeping Tom*, and a wooden image of him is to be seen on a house in the city.

Derby, the capital of Derbyshire, is an ancient but now considerably modernised town, situated on a pleasant slope and irregular ground, on the south side of the vale of the Derwent, a river tributary to the Trent, pursuing a winding course through the county, and of great value in moving mill-machinery. Derby is the centre of one of the most productive and industrious districts in England, particularly as respects the manufacture of iron and other minerals. In the town and its neighbourhood there are large manufactories of lace, galloons, broad silks, silk hosiery, china, marble, jewellery, &c.; several extensive mills and manufactories have been built within these few years, and the machinery is equal to that of any other part of the kingdom. The town is irregularly built, and excepting some new erections in the corn-market, an infirmary, and an old church, with an elegant and conspicuous tower, it owns no public building worthy of remark. Though placed in the midst of a stone district, the houses are as usual built of brick. Within these two years, Derby has come prominently into notice by being on the line of the extended series of railways from Durham and Yorkshire to London, and the station here is of magnificent proportions: the distance from London, 126 miles, is performed by railway in about seven hours. In 1840, the town received from Mr Joseph Strutt the munificent gift of a pleasure-ground, eleven acres in extent, and called by him the Arboretum. It is replenished with walks, seats, and every way fitted up for promenading and recreation; it is opened freely two days of the week to all classes, and on other days is accessible upon payment of a small fee. The population of Derby in 1831 amounted to 23,627.

Carlisle, which in early times was distinguished as a bulwark against the invasions of the Scottish armies, and as a cathedral city, has latterly acquired some note as a seat of manufactures, particularly in the department of cotton-spinning, calico-printing, and the weaving of ginghams, &c. The establishment of a railway communication with Newcastle has within the last few years added to its mercantile prosperity, by rendering it an entrepôt for produce passing from the west coast.

and from Ireland to the populous counties of Durham and Northumberland. Population, 20,006.

Commercial Towns.

At the head of this class stands *Liverpool*, next to London the greatest port in the empire. It is situated in Lancashire, on the east bank of the estuary of the Mersey, at the distance of 36 miles from Manchester, and 204 from London. The town extends for about three miles along the Mersey, and rather more than one mile inland, the situation enjoying a slight slope towards the river. On the side next the country, the town extends into numerous suburban districts, comprehending many villas, the residences of the more wealthy citizens. Liverpool, in 1831, contained 165,175 inhabitants; but, inclusive of the immediate environs, and the persons engaged in navigation, the whole number in 1835 was believed to be not less than 220,000. Its rise has been surprisingly rapid. In the reign of Elizabeth, it was only a small village; in 1700, there were about 5000 inhabitants; in 1760, 26,000; and, in 1801, 77,653.

Liverpool is the grand medium through which the trade of England with Ireland and with America is carried on; and a vast quantity of business is transacted by its merchants with the ports of the Mediterranean, East Indies, and other parts of the world. The leading article of import is the cotton so extensively used in the manufactures of Lancashire, of which, in 1830, out of 793,695 bales imported into England, 703,200 were brought into Liverpool. The rural produce of Ireland, cattle, bacon, poultry, eggs, &c., forms the import next in amount, the value in 1832 being about four and a half millions sterling. The duties paid at the customhouse of Liverpool, in 1837, were L.4,351,496, being about a fifth of those paid throughout the whole kingdom. In the same year, the vessels entered inwards, exclusive of those concerned in the fisheries and coasting trade, were—British, 1685; foreign, 985; in all, 2670. Those entered outwards were—British, 1735; foreign, 1012; in all, 2747. But when the fisheries and coasting trade are included, the number of British vessels entering Liverpool that year reaches the amazing number of 10,281, each being upon an average of 200 tons. Liverpool is the great outlet for the goods manufactured in Lancashire and Yorkshire for sale in America. It is stated that one mercantile house in the American trade, has in one year shipped and received goods to the amount of a million. In connection with the commerce carried on with the United States, there is a large transit of passengers. This was formerly carried on by means of a periodical series of well-appointed and quick-sailing vessels, usually termed *liners;* but, for three years past, it has been conducted by means of steam-vessels. There are also steam-vessels conveying passengers, daily, to and from Dublin, Glasgow, and several Welsh ports, and only a little less frequently to other Irish harbours, and to several ports in the south-west division of England.

The town, thus so extensively concerned in that commerce from which England derives its chief glory, presents many external features not unworthy of its mercantile character. Of these the chief is the *Docks*, a magnificent series of deep-water harbours, extending along the whole front of the town. They are eleven in number, with an aggregate superficies of 111 acres, and eight miles of quays! In the year ending June 24, 1840, the dues paid by vessels entering and leaving them was L.197,477, 18s. 6d. The sight of these docks, bristling with numberless masts, and a scene of constant bustle from loading and unloading, fills a stranger with astonishment.

The town contains several handsome streets, the chief being Castle Street and Dale Street. The Town-Hall and Exchange Buildings form an elegant and impressive assemblage of objects, having a bronze group in the intermediate court, commemorative of the death of Lord Nelson. The Customhouse is, as might be expected, a conspicuous edifice, but in a heavy style of architecture. The other public b the Corn-Exchange, Lyceum, Athenæum, Rooms, Infirmary, &c., are goodly structures. upwards of twenty churches belonging to the ment, many of them of much architectural greater number of chapels belonging to var minations of dissenters; with four Roma chapels, a meeting-house for Quakers, an synagogue. The charitable institutions are and well conducted. About 1500 patients ar annually into the Infirmary. The Blue-Coa maintains and educates about 200 boys and school for the blind is on a most extensive handsome and spacious theatre, and a circus during great part of the year. At the Royal Institution, public lectures are given; and it is a philosophical apparatus and a muse tural curiosities. A botanic garden was est 1801, at an expense of about L.10,000. The a mechanics' institution of unusual extent an having been erected at an expense of L.11,0 cludes schools for the young, as well as for cent; and in the amount of its funds, and var branches of knowledge taught, the establish be described as a kind of university for the working classes of Liverpool. Amongst the able objects connected with the town, the o Cemetery of St James's, formed out of an quarry, is worthy of particular notice. It statue of Mr Huskisson, who was interred i Manchester and Liverpool Railway is noticed

Bristol, a large sea-port town, is situated pa county of Somerset and partly in that of Glo the junction of the Rivers Avon and Frome, ten miles from the junction of the former navigable) with the Bristol Channel. It is or English towns which possess the dubiously ack privilege of being counties in themselves, an the cathedral city for the diocese of Bristol is an ancient town, and has long enjoyed dist a sea-port. Previous to the rise of Liverpool it is now greatly inferior, it was the chief p west of England. It still possesses considera and has further of late years become the sea active and thriving manufactures. In 1837, of 76,957 tons burden, entered the harbour fro ports, besides 632 from Ireland; and in the s the customs duties collected were L.1,153,109 rum, and tea, are the chief foreign imports, chief exports are the native manufactures, a woollen, and linen goods. The chief native tures are soap, glass bottles, various metal drugs, dyes, and soda. It is honourable to Br as in its ancient days of supereminency as sent out the first English vessel across the (that of Cabot, which discovered North Ame in these days, it was the first to establish a cation by steam with the same continent. done in 1838, when the Great Western perf first voyage. The population of Bristol, in 1 117,016.

Bristol is a well-built town, containing many streets and squares, and extending into seve tiful suburban villages, as Clifton, Kingsd St Michael's, where the residences of the citizens are placed. The city contains ma structures of an interesting character. The is a fine old specimen of the Gothic architec the Church of St Mary Redcliffe is consider the most beautiful in England. The "floating h formed out of the ancient beds of the two ri surrounded by an immense extent of quay, i impressive object: the cost of its construction much less than L.700,000. The Guildhall, J mercial Rooms, and Institution (which con brary, hall for lectures, &c.), are other public of an elegant appearance. Clifton, being the well-known hot well, contains a suite of b pump-rooms.

castle-on-Tyne.—This ancient and prosperous commerce occupies a somewhat incommodious n on the left or north bank of the Tyne, at the e of about ten miles from the sea. It is locally county of Northumberland, and by means of a across the Tyne is connected with the populous h of Gateshead, in the county of Durham. It

Newcastle-on-Tyne.

e origin of its name to Robert, the eldest son of a the Conqueror, who erected a fortress on the uff which here overhangs the river, and gave it ne of Newcastle. For ages the town was sur- d by strong walls, as a protection against invad- ttish armies: these, however, have disappeared, modern times the town has spread over the ar acclivities and upland which border the river. l fort or castle still exists, also the ancient Gothic of St Nicholas, whose elegant turret is conspi- it a considerable distance. The main cause of reasing importance of Newcastle is its fortunate n in the midst of the great coal-field of North- land and Durham, the produce of which finds a utlet by the Tyne. The plentifulness of coal to the establishment of numerous manufactures, which are numbered cast and wrought iron, ary, lead, glass, chemical productions, pottery, nd glue. The number of vessels, British and , which entered the port in 1838, was 1835, with n of 242,004 tons. The gross receipts at the house for the same year were L.379,360. The arts of the town near the river exhibit a busy of industry; here are crowded together ship and uilding yards, wharfs for vessels, iron foundries achine manufactories, and all the usual works ted with a great sea-port. The streets in this r are dirty and smoky, but other parts of the re of great elegance. Since 1834, by the ex- linary energy and taste of Mr Richard Grainger, nating architect, a large portion of the town n taken down and rebuilt with handsome stone , amidst which are various public buildings, ng a theatre, an exchange, extensive markets, Newcastle must be considered the metropolis of and populous district, including Tynemouth, and South Shields (all at the mouth of the Tyne), head, Durham, and Gateshead; and with these timately connected by means of the river, rail- or otherwise. At Shields and Sunderland are the depôts of shipping in the coal and other trades. n its remarkable manufacturing and commercial ity, Newcastle is distinguished for its philosophi- l literary institutions, no other town of its kind ing so many inhabitants of cultivated taste. In luding the population of Gateshead, which was , Newcastle and its suburbs had a population of ; but at present it is estimated at 100,000.

(properly Kingston-upon-Hull) is situated at the ce of the River Hull with the estuary of the e, in the East Riding of Yorkshire, of which it is the principal town. It commands an ex- nsive amount of inland navigation, not only by of the Trent, Ouse, Derwent, and other branches Humber, but by means of canals connecting with streams, and penetrating to the very heart of d. It is the principal outlet for the manufactures of York and Lancashire towards the continent of Europe, the chief seat of the northern whale fishery, and one of the most important stations for steam-navigation in the island, having packets of that kind voyaging not only to London, Newcastle, Leith, and Aberdeen, besides many inland places in its own district, but to Rotterdam, Hamburgh, and occasionally to some of the ports in what is more particularly called the north of Europe. Hull was a noted port so early as the reign of Edward I.; and in the seventeenth century it was a great state depôt for arms, on which account the possession of it in the time of the civil war became an object of much importance. The refusal of its governor, Sir John Hotham, to give it up at that time to Charles I., or even to admit his majesty within the gates, is a conspicuous incident in English history. For some years, owing to various circumstances, some branches of the commerce of the port have experienced a decline rather than an advance; but it is still a town of large trade. In 1829, 579 vessels, of 72,248 aggregate tonnage, belonged to Hull. For the accommodation of the shipping there is a splendid range of docks, presenting an amount of quayage said to measure 60,000 square yards, and with all the suitable accommodations for storing a vast quantity of merchandise. The population of the town is about 50,000.

Chester is one of the less important and less populous of the commercial towns of England. Such importance, however, as it possesses as a commercial town, is enhanced by its being a county town and cathedral city, and the residence of a considerable number of persons in independent circumstances. It is also remarkable for its antiquity and its historical associations, as well as for some local features of an unusual kind.

It is situated within a bend of the Dee, a few miles from the point where that river joins an estuary branching from the Irish Channel. The two principal streets cross each other at right angles, and the town is still surrounded by the massive walls which were originally designed to protect it from warlike aggression, but are now only useful as an agreeable promenade, from which some pleasant views of the surrounding country may be obtained. The streets are formed in hollows dug out of rock, so that the lowest floor of each house is under the level of the ground behind, though looking out upon the carriage-way in front. The paths for passengers are not here, as is usually the case, formed in lateral lines along the streets, but in a piazza running along the front of what in England is called the *first*, and in Scotland more correctly the *second* floor, of the houses. These piazzas, called in Chester *the Rows*, are accessible from the street by stairs at convenient distances. There are numerous shops entered from them, and they in some places still retain the massive wooden balustrades with which all were originally furnished, but for which, in other places, light iron railings have been substituted. Where the houses and balustrades are old, the effect is very curious and striking, and apt to awaken ideas of ancient usages and habits long passed away. The Cathedral of Chester contains some curious ancient architecture. The Castle is a splendid modern building, on the site of the powerful fortress which was once of such importance as a check upon the Welsh: it contains the county court-house, jail, &c. The principal other buildings are the Halls built by the merchants to serve as marts, of which there are three, besides the Exchange. The bridge across the Dee is a remarkable object, being of one arch, with a span of 200 feet: it cost £40,000.

Chester was an important station of the Romans, from whom it derived the cross form of its two principal streets, and of whom many relics have from time to time been dug up. It retained its importance during Saxon and Norman times, and in the thirteenth and fourteenth centuries was a flourishing city, with a large maritime trade. It then declined, in consequence of natural obstructions to the navigation of the river. From the year 1328 downwards, it was remarkable for the annual performance of a peculiar class of theatrical

representations, similar to those performed at Coventry, and termed Mysteries. To modern taste these would seem the most gross burlesque of sacred subjects; but so convinced were the clergy of those days of their edifying qualities, that a thousand days of pardon from the Pope, and forty from the Bishop of Chester, were granted to all who attended them. After a long period of declension, the trade of Chester was revived by the cutting of a new channel for the river, whereby vessels of 600 tons burden were enabled to come to the quays near the town. The commerce, with the exception of a few ships which visit Spain, Portugal, the Mediterranean, and the Baltic, is chiefly confined to Ireland, whence an immense quantity of linen, hemp, flax, skins, and provisions, is imported. The exports of Chester are cheese (the staple production of the county), lead, coal, calamine, copper-plates, and cast-iron. Shipbuilding is carried on to a considerable extent, and there are some manufactures of inferior consequence. The population of Chester in 1831 was 21,363.

Southampton is an ancient but considerably modernised town, the capital of Hampshire, and, next to Portsmouth and Plymouth, may be considered the chief outport on the south coast. It enjoys a situation at once pleasant and convenient, in a vale adjoining to the bay bearing its own name. In modern times, the town has been greatly improved and increased by the erection of lines of handsome streets in the environs, the residence of a respectable and leisurely population. Among the attractions of the neighbourhood, are those of the New Forest, which almost adjoins the town, and a beach forming a pleasant bathing-place in summer: few sea-side towns are more salubrious or agreeable. With the Isle of Wight, at a few miles' distance, there is a constant communication by steamboats. The South-Western Railway, which terminates near the shore of the bay, has greatly advanced the interests of the town, by making it a depôt of traffic in connexion with the metropolis; and there are now constructing, at a great cost, large wet-docks and wharfs for shipping. A considerable trade is already carried on with foreign countries, and the port is a main point of communication between England and Guernsey, Jersey, and Havre, in which, and some other respects, it is a rising rival of the neighbouring town of Portsmouth. The population in 1831 was 19,324.

University Cities.

Oxford, the chief of this limited class of cities, is the principal town in Oxfordshire, and is situated in a valley at the confluence of the Isis and Cherwell, at the distance of 58 miles from London. Besides being the seat of the celebrated university named from it, it is the seat of an episcopal see. Containing twenty colleges and five "halls," a cathedral, and thirteen elegant parish churches, besides the Radcliffe Library, the University Theatre, and several other elegant public buildings, all condensed into a small space, amidst streets, some of which are straight and elegant, while none except a few of an obscure character are mean, Oxford appears to a stranger as beautiful externally as its historic character renders it venerable. The High Street, in which several colleges are situated, is generally acknowledged to be one of the finest streets in the world. The origin of the university is usually attributed, but upon no certain authority, to King Alfred. Oxford has certainly, however, been a famed seat of learning since the twelfth century. Each college and hall has its own students and teachers, revenues and regulations; yet they are all united under the government of one university. The officers by whom the university is immediately governed, are the chancellor, high steward, vice-chancellor, and two proctors. In addition to the private officers in each college and hall, who see that due order and discipline are preserved, and all the liberal sciences taught, there are twenty-three public professors of the several arts and sciences. In 1829, there were 5009 members on the books, one-third of whom, in their capacities as fellows, &c., were maint[illegible] d the revenues. The[illegible] wear a peculiar [illegible] ried according to the[illegible] in the college. [illegible] live within the gate[illegible] their respective e[illegible]

Cambridge is the [illegible] town in Cambridgesh[illegible] is situated on t[illegible] C[illegible], [illegible] the distance of 5[illegible] mi[illegible] London. It is also an elegant city, though less Oxford. The university has no certain date 1229: it comprehends seventeen colleges, v[illegible] most respects are similar to those of Oxford. College Chapel, built in the reign of Henry VI. [illegible]sid[illegible]red the most beautiful structure in either of [illegible]versity towns.

Naval Stations.

Portsmouth, the principal rendezvous of the navy, is situated on the west side of the Isle of [illegible] in Hampshire. To the west of the island is [illegible] called Portsmouth Harbour, excelling every [illegible] the coast of England for its spaciousness, de[illegible] security. The obvious utility of this harbour [illegible] a situation, caused it to be used at an early per[illegible] st[illegible]ion for shipping, and hence the rise of the P[illegible]rtsmouth on the narrow inlet by which it co[illegible] cates with the English Channel. It is also t[illegible] red, that the strait between the mouth of t[illegible] [illegible]r and the Isle of Wight, forms the celebrat[illegible] st[illegible]d of Spithead, which is capable of contai[illegible] th[illegible]nsand sail at anchor in the greatest security original or old town of Portsmouth, surroun[illegible] ancient walls; the modern suburban towns of [illegible] and Southsea, respectively situated to the nor[illegible] south of the original town; and the town of Gos[illegible] the opposite side of the inlet to the harbour, ma[illegible] said to form one cluster of population, probab[illegible] bering not less than 70,000. The beach opposite[illegible] sea being well adapted for sea-bathing, has enab[illegible] suburb or village to become a watering-place [illegible] note.

The docks, arsenal, building-yards, and all the other establishments concerned in the fitting out [illegible] keeping of the national shipping, render Portsm[illegible] object of wonder to all who see it for the firs[illegible] The Dockyard includes the great area of 10[illegible] The Smithery is a vast building, where anch[illegible] wrought, weighing from 70 to 90 hundredweigh[illegible] On the Anchor-Wharf hundreds of these useful[illegible] ments are piled up, ready for immediate service[illegible] Ropery, where the cordage for the vessels is pr[illegible] is three storeys high, 54 feet broad, and 1[illegible] long. The Gun-Wharf is an immense arsenal, [illegible] ing of various ranges of buildings for the rece[illegible] naval and military stores, artillery, &c. The[illegible] Armoury is capable of containing 25,000 stand [illegible] There is a naval college, where a hundred sch[illegible] time of war, and seventy in time of peace, are [illegible] thirty, who are the children of officers, being[illegible] tained and educated at the public expense. [illegible] war, the number of persons employed in the [illegible] establishments connected with the public ser[illegible] Portsmouth, has amounted to 5000. The p[illegible] buildings connected with the arsenal and dockya[illegible] the commissioner's house, the government hou[illegible] victualling office, the port-admiral's house, s[illegible] naval and military barracks. The promenad[illegible] the fortifications forms one of the most agreea[illegible] tures of the town. Amongst objects of curio[illegible] may specify the Victory, Nelson's flag-ship at Tra[illegible] the Semapore Telegraph; and the house (No. 11[illegible] Street) in which the Duke of Buckingham was [illegible] rarily residing, when, in front of it, he was sta[illegible] death by Lieutenant Felton, in 1628. The chu[illegible] Portsmouth is a spacious Gothic structure, [illegible] comparatively modern tower, useful as a landm[illegible] seamen. There are various charitable, literar[illegible] scientific institutions connected with the town.

Plymouth is another important naval station, being a thriving commercial town. It is situ[illegible] the head of the capacious haven of Plymouth

...mouth, on the east side of a tongue of land ...d by the estuaries of the rivers Plym and Tamar, ...here empty themselves into the sea. Immediately ...cted with Plymouth is *Devonport*, situated in the ...diate neighbourhood, and properly an appendage ...mouth, though of late years distinguished by a ...te name. The united population, in 1831, was ... Plymouth having gradually risen from the ...ce of a small fishing-town to its present size, ...of the streets are irregular, and by no means ...t or commodious; but the new parts of the town ...ndsome, and are spreading rapidly.

...mouth carries on a considerable trade in timber ...North America and the Baltic, and an intercourse ...en established with the West Indies. The coast-...de is chiefly with London, Newcastle, Newport ...Wales), and Bristol. The chief imports are coal, ...ours, wine, and timber.

...e as a naval and military station that the town is ...y distinguished. Situated upon a capacious and ...e natural harbour, near the mouth of the English ...nel, it is well adapted for this purpose, fleets have ...ready exit from it upon any expedition towards ...Mediterranean, the Indies, or America. The dock, ...h is situated at Devonport (formerly on that no-...called Plymouth Dock), extends along the bank ...e Tamar, in a curve 2660 feet in length, with a ...th at the middle, where it is greatest, of 1660 feet, ...d each extremity 1000, thus including an area of ...eres. Of the fortifications connected with Ply-..., the most remarkable is the citadel, which was ...ed in the reign of Charles II. It is placed in a ...commanding situation on the east end of the ...e called the *Hoe*, which shelters the town from ...sea. It is exceedingly well fortified, and is con-...ly garrisoned. It contains the residence of the ...rnor of Plymouth, and barracks for five or six ...red troops. Under the eastern walls of the citadel ...victualling-office, an extensive range of buildings, ...ining the granaries and ovens for supplying the ..., as also the cellars and storehouses for wine, ..., meat, &c., for the use of the king's vessels in ...ser. The port of Plymouth is distinguished for ...apacity, and the security which it affords in its ...al parts. It is capable of containing 2000 sail, ...s one of the finest harbours in the world. It con-...of three divisions or harbours—Sutton Pool, im-...diately adjoining the town; Catwater, an extensive ..., formed by the estuary of the Plym; and the ...ser or bay of Hamoaze. At the mouth of these ...bours, the great bay of Plymouth Sound forms an ...llent roadstead, which is now completely secure ...m the erection of the breakwater across its entrance. ...work is an insulated mole, or vast heap of stones, ...thing across the entrance of the sound so far as ...ve a passage for vessels at either end, and oppos-...a barrier to the heavy swell rolling in from the ...antic. Its length is 1700 yards, the eastern extre-... being about 60 fathoms to the eastward of St ...e's Rocks, and the western, 300 west of the Shovel ...s. The middle part is continued in a straight line ...yards, and the two extremities incline towards the ...ern side of the straight part in an angle of about ...degrees. This great work was begun, August 12, ...

During its progress, convincing proofs of its ...ty and utility were afforded. The expense of ...ing the breakwater is estimated at £1,171,100. ...Eddystone Lighthouse is an important appendage ...o harbour, the entrance of which would, without ...ssion, be extremely dangerous.

...e public buildings of Plymouth are, the Custom-..., the Exchange, the Athenæum, the Public Library, ...Theatre, the Classical and Mathematical School, the ...anics' Institute, &c. Of the two parish churches, ...most ancient is that of St Andrew, built previously ...291, a handsome building of the Gothic order; ...ie's Church is also a Gothic structure. Among ...charitable institutions, which *are about thirty*, are ...thouse, *a public dispensary, an eye-infirmary*, a ...ring-in charity, a public subscription school, alms-houses, Bible societies, &c.

Towns of Residence and Recreation.

Bath.—This is reckoned the best built town in England, and is a favourite residence of the higher classes, either for recreation or in pursuit of health. It is situated in Somersetshire, at the distance of about 106 miles west from London, and lies in a valley divided by the River Avon. Though of great antiquity, the place came into notice and rose to importance in comparatively modern times, in consequence of possessing certain hot mineral springs, considered to be efficacious in the cure of different complaints. The water issues from the ground at a temperature of from 102° to 117° of Fahrenheit, and the quantity discharged daily from the various outlets is 184,320 gallons. The water has been analysed, and is found to contain sulphate of lime, with considerably lesser proportions of muriate of soda, sulphate of soda, carbonic acid, and carbonate of lime, also a minute portion of silica and oxide of iron. It is stimulating in its properties, and is said to be most successful in cases of palsy, rheumatism, gout, and cutaneous diseases. Over the springs there are elegant pump-rooms and baths. The modern parts of the town are built as streets, crescents, and squares, the houses being of polished sandstone, and in some instances constructed with much taste. Living is expensive in the town during the fashionable season. The population in 1831 was 38,063.

Cheltenham competes with Bath as a fashionable resort for valetudinarians, real or imaginary. It is situated in Gloucestershire, 88 miles west from London, and 39¼ north-east of Bath. The situation is exceedingly delightful, being remarkably well sheltered by the range of Cotswold Hills on the north-east, and having an exposure to the south and west; it is on this account preferred to all other towns in England by persons from India and other hot climates. Besides being attractive from the salubrity and mildness of its climate, Cheltenham, like Bath, possesses mineral springs reckoned of value for medical purposes, but particularly for invalids with diseased livers. There are several springs, some of which are chalybeate, but their properties and strength are liable to variation. Cheltenham is laid out, in a very ornamental manner, with walks and pleasure-grounds, and may be described as perhaps the prettiest town of a small size in England. As in Bath, the expense of living is very great. The population of the parish in 1831 was 22,942, about one-half of whom belonged to the town.

Brighton, on the coast of Sussex, has risen into importance within the last sixty years, partly in consequence of a beach remarkably well adapted for sea-bathing, and partly from its attracting the regard of George Prince of Wales, who reared a marine palace here, in a Chinese style. The population in 1831 was 40,634. Brighton is an elegant and airy town, with much to render it agreeable as a place of residence for persons in affluent circumstances. The Steyne, a spacious and beautiful lawn, nearly surrounded by houses, the Marine Parade, and several terraces overlooking the sea, furnish delightful walks; while the Baths, Theatre, Assembly-Rooms, &c., form additional attractions. There is a regular intercourse with Dieppe by steam-vessels. The Chain-Pier is a remarkable object: it was erected in 1823 at an expense of £30,000, and is 1134 feet long.

Amongst other towns of this class, we can only notice *Herne Bay*, *Margate*, and *Ramsgate*, situated on the coast of Kent, and which may be considered as the chief places of summer recreation for the inhabitants of London, to and from which steamers ply daily. Herne Bay is a place of recent date, rising into notice, and possessing a pleasant open beach, with space for promenading. Margate is a town of a much earlier date, situated in an open part of a bold line of chalky cliffs, and consists of a confused cluster of streets, with some lines of building of a more airy description in the ea-

virons. The town is well supplied with shops, bazaars, and places of amusement during the bathing-season; it also possesses numerous respectable boarding-houses, where, on moderate terms, a person may [illegible] for a short time in a very agreeable manner. A[illegible] parties of pleasure are made up for the [illegible] expense of cars and refreshments during [illegible] being defrayed by general contribution. [illegible] or two along the coast is another summer retreat called *Broadstairs;* and beyond it, at an equal distance, is Ramsgate. The chalk cliffs here, which are bold and precipitous, afford a high and salubrious position for the chief part of the town, and beneath there is a fine tract of sandy beach for the use of bathers. The harbour at Ramsgate is one of the best in England, and affords shelter to all kinds of vessels in the Downs.

Cathedral Towns.

Of this class of towns, besides those which have been already noticed under other heads, we can here only advert to three of more than usual importance.

Canterbury, the capital of Kent, is a city of great antiquity, having formed the seat of an ecclesiastical establishment to St Augustine, the apostle of Christianity to Britain in the sixth century. In the tenth and eleventh centuries, the town derived great importance from the erection or extension of a cathedral, on a most extensive scale, and of the purest Gothic architecture. In 1162, the archiepiscopal see was bestowed on the famous Becket, who enjoyed it eight years, till the period of his murder in 1170, when his shrine became an object of extraordinary reverence, and brought pilgrims in thousands from all parts of the kingdom. The cathedral, which thus became celebrated, [illegible] exists, in a slightly altered and improved condition. [illegible] form is that of a cross, with a central tower of unrivalled workmanship, reaching to a height of 236 feet. The size of the building is immense: the length inside, from east to west, being 514 feet; height of the vaulted roof, 80 feet; breadth of the nave and side aisles, 71 feet; and breadth of the cross aisles, from north to south, 124 feet. The interior exhibits a number of interesting monuments of distinguished individuals. Altogether, the cathedral is a work of exceeding grandeur, and, with exquisite beauty of form, possesses a profound historical interest. The town of Canterbury is old, and, like most cathedral towns, is a dull and formal place of residence, with a proportion of genteel inhabitants. It is, however, neat and clean, and is surrounded by a fertile and pleasant tract of country. It has a number of large hotels and posting-houses, to accommodate the numerous travellers passing between the metropolis and Dover, the chief out-port for France. The distance from London is 56 miles, and from Dover 16. A railway which is now preparing between London and Dover, and which does not touch Canterbury, will, in all likelihood, completely ruin it as a posting-station. The only object of attraction in the town, besides the cathedral, is a pleasure-ground called the Danejohn, a corruption of the word donjon, such a building having once occupied the spot, in connexion with the city walls. The area of the field is laid out with an avenue of trees, and is principally otherwise a grassy esplanade, open freely to all the inhabitants. In 1790, the field was presented by Mr Alderman James Simmonds for the use and recreation of the inhabitants in all time coming, an act of generosity deserving the highest commendation. The population of Canterbury in 1831 was 14,463.

York.—This ancient city, considered as the second in the kingdom in dignity—the chief town of the county, and the cathedral city of the archiepiscopal diocese bearing its name—is situated at the confluence of the Rivers Foss and Ouse, in one of the richest and most extensive plains in England. Its population in 1831 was 25,359. York, whatever its first rise might be, was a city of the Romans, and occupied by Roman citizens as a *colony*. It was successively the seat of Adrian, Severus, and other emperors: Severus died here in [illegible] year 210, [illegible] quest, [illegible] a [illegible] size. [illegible] but l[illegible] [illegible] [illegible] [

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of which are very small in size, but at one time were very populous. The practice of living out of town, and of using the dwellings of the city for warehouses, has greatly lessened the population in latter times. Without the walls, there are eleven parishes, independently of the parishes in Westminster and Southwark. The largest and most populous of the suburban parishes is Marylebone. Adjoining the suburban though really town parishes, there are various country parishes, as Greenwich, Deptford, Camberwell, Clapham, Westham and Stratford, Hammersmith, Hampstead, &c., containing an aggregate population of 129,480; and adding this number to the above 1,474,069, there was within a compass of about eight miles round London, in 1831, a population of 1,504,042, which is probably now increased to nearly two millions. Within the last fifty years, London has doubled in extent, and at present is rapidly increasing on all sides, particularly on the north, west, and south. In no town in Great Britain are there to be seen so few empty houses. The total assessed rental of the metropolis in 1830 was £5,143,340, but the real rental was supposed not to be less than 7,000,000.

The increase of London to its present enormous size, has been promoted by certain highly favourable circumstances. First, it has for ages been the capital of England, and seat of the legislature and court; and, since the union with Scotland and Ireland, it has become a centre also for these parts of the United Kingdom. Being therefore a point of attraction for the nobility, landed gentry, and other families of opulence from all quarters, a vast increase of population to minister to the tastes and wants of these classes has been the result. While deriving immense advantages from this centralising principle, London has been equally, if not far more indebted to its excellent situation on the banks of a great navigable river, and in a fine part of the country. As already mentioned, London proper, or the greater part of the town, stands on the left bank of the Thames, on ground rising very gently towards the north; and so even and regular in outline, that among the streets, with few exceptions, the ground is almost flat. On the south bank of the river, the ground is quite level, rather too much so; and on all sides the country appears very little diversified with hills, or any thing to interrupt the extension of the buildings. The Thames, that great source of wealth to the metropolis, is an object which generally excites a lively interest among strangers. It is a placid majestic stream, rising in the interior of the country at the distance of 138 miles above London, and entering the sea on the east coast about sixty miles below it. It comes flowing between low, fertile, and village-clad banks,

out of a richly ornamented country on the west, and arriving at the outmost houses of the metropolis, a short way above Westminster Abbey, it pursues a winding course between banks thickly clad with dwelling-houses, warehouses, manufactories, and wharfs, for a space of eight or nine miles, its breadth being here from a third to a quarter of a mile. The tides affect it for fifteen or sixteen miles above the city; but the salt water comes no farther than Gravesend, or thirty miles below it. However, such is the volume and depth of water, that vessels of seven or eight hundred tons reach the city on its eastern quarter at Wapping. Most unfortunately, the beauty of this noble stream is much hid from the spectator, there being no quays or promenades along its banks. With the exception of the summit of St Paul's, the only good points for viewing the river are the bridges, which cross it at convenient distances, and by their length convey an accurate idea of the breadth of the channel. During fine weather, the river is covered with numerous barges or boats of fanciful and light fabric, suitable for quick rowing; and by means of these pleasant conveyances, as well as small steam-boats, the Thames forms one of the chief thoroughfares.

London is fortunate in a particularly salubrious situation, whether as respects its relation to the river or its subsoil. A large portion of the entire city is built on gravel, or on a species of clay resting on sand; and by means of capacious underground sewers in all directions, emptying themselves into the Thames, the whole town (with some discreditable exceptions in the humbler and more remote class of streets) is well drained and cleared from superficial impurities. On account of the want of stone here, as in many other places in England, brick is the only material employed in building. London is therefore a *brick-built town.* To a stranger, it appears to consist of an interminable series of streets of moderate width, composed of dingy red brick houses, which are commonly four storeys in height, and seldom less than three. The greater proportion of the dwellings are small. They are mere slips of buildings, containing, in most instances, only two small rooms on the floor, one behind the other, often with a wide door of communication between, and a wooden stair, with balustrades, from bottom to top of the house. It is only in the more fashionable districts of the town that the houses have sunk areas with railings; in all the business parts, they stand close upon the pavements, so that trade may be conducted with the utmost facility and convenience. Every street possesses a smooth flagged pavement at the sides for foot passengers; while the central parts of the thoroughfares are causewayed with square hard stones, or paved in some other way equally suited to endure the prodigious tear and wear created by the horses and vehicles passing along them.

In the central and many other principal streets of London, the ground storeys of the houses are generally used as shops or warehouses. When the object is retail traffic, the whole range of front is usually formed into door and window, so as to show goods to the best advantage to the passengers. The exhibition of goods in the London shop windows is one of the greatest wonders of the place. Every thing which the appetite can desire, or the fancy imagine, would appear there to be congregated. In every other city there is an evident meagreness in the quantity and assortments; but here there is the most remarkable abundance, and that not in isolated spots, but along the sides of thoroughfares miles in length. In whatever way the eye is turned, this extraordinary amount of mercantile wealth is strikingly observable; even in what appear obscure alleys or courts, the abundance of goods is found to be on a greater scale than in any provincial town.

The flowing of the Thames from west to east through the metropolis, has given a general direction to the lines of streets; the principal thoroughfares are in some measure parallel to the river, with the inferior, or at least shorter, streets branching from them. I ing the town lengthwise, or from east to west, great leading thoroughfares at a short distar each other, but gradually diverging at their extremity. One of these routes begins in the environs, near Blackwall, proceeds along Whi Leadenhall Street, Cornhill, Cheapside, Newgat Skinner Street, Holborn, and Oxford Street. T may be considered as starting at London Bri passing up King William Street into Cheapsid end of which it makes a bend round St Paul's yard, thence proceeds down Ludgate Hill, alo Street and the Strand to Charing Cross, where a branch off to the left to Whitehall, and an the right, called Cockspur Street, which leads into Pall-Mall, and sends a shoot up Reger into Piccadilly, which proceeds westward to Hy Corner. These are the main lines in the me and are among the first traversed by strangers be observed that the main channels unite in Cl which therefore becomes an excessively crow roughfare, particularly in the early part of The main cross branches in the metropolis a ringdon Street, leading from the opening t friars Bridge, at the foot of Ludgate Hill, to I the Haymarket, leading from Cockspur Str Regent Street, already mentioned. There ar large streets leading northwards from the Holl Oxford Street line. The principal one, in th St Martin le Grand and Aldersgate Street, wh municates with the great north road. It is a r general complaint, that there are so few great of communication through London both length crosswise; for the inferior streets, independ their complex bearings, are much too narrow lar traffic. According to the accounts last ta entire metropolis contained 13,936 separate squares, courts, alleys, &c., each with a distin Oxford Street, the longest in London, is 2304 length, and numbers 225 houses on each side.

Without particular reference to municipal tions, London may be divided into four princi tions—the city, which is the centre, and wh greatest part of the business is conducted; end, in which is the port for shipping; the w or Westminster, in which are the palaces of th and royal family, the houses of Parliament minster Abbey, and the residences of the nobi gentry; the Surrey division, lying on the sou of the Thames, and containing many manuf establishments and dwellings of private familie sides these, the northern suburbs, which incl once detached villages of Stoke Newington, I Hoxton, St Pancras, Pentonville, Somer's To Paddington, and consist chiefly of private dwell the mercantile and higher classes, may be con a peculiar and distinct division. It is, howe where possible to say exactly where any one begins or ends. Throughout the vast compas city and suburbs, there is a blending of one with those contiguous to it. In the busines there are lines or clusters of neat dwellings, the parts devoted to retirement there are seen tions of business. The outskirts on all sides c long rows or groups of detached villas, with mental flower-plots; and houses of this attracti proceed in some directions so far out of tow there seems no getting beyond them into the From the Surrey division there extend southwa westwards a great number of these streets private houses, as, for instance, towards Wa Kennington, Clapham, Brixton, &c.; and in thes tions lie some of the most pleasant spots in the c of the metropolis. The suburban streets a macadamised, and possess gravel side paths.

PLACES ON THE THAMES, BELOW LONDON.

The places on the Thames, below London, wh most worthy of the visits of strangers, are D

wich, and Woolwich, the latter being the farthest
own.

Deptford is a village in Kent, on the south bank of
Thames, eight miles from London by land, and ten
ong the course of the river. Here, in the reign
enry VIII., a dockyard for the construction of
ips of the royal navy was established; and, ever
e this place has been distinguished as an arsenal for
ival and military stores. From the river a view is
ained of the dockyard and arsenal, now greatly im-
ed. The ground, for nearly a mile in length, is
ded by a stone quay, and surrounded on the land
e with various storehouses and workshops. Among
e is included a laboratory for the preparation of
ets, bombs, grenades, and shot. Adjoining are
rks for artillery and marines, military hospitals,
d the upper part of Woolwich Common is situated
e military academy for the education of young
ntlemen designed for the army. Strangers are not
mitted to the dockyard and arsenal without an order
m either of the Board of Ordnance. About two
les farther up the Thames, at the head of the reach,
Woolwich, on the north bank, with its noble quay for
ge ships. The river now bends sharply to the south,
d then returning northwards, encloses like a penin-
la on the north side, a large flat piece of marshy
nd called the *Isle of Dogs*. At the southern extre-
ity of this bend of the river stands Greenwich.

Greenwich is a small town, lying on the south bank
the Thames, about six miles below London Bridge,
llowing the windings of the river, but only about four
iles by land. To those who do not reach it from
Deptford or any other part down the river, but pro-
ed to it on purpose from London, the most conve-
ient route is by railway from the terminus near the
orthern end of London Bridge, the journey being per-
rmed in fifteen or twenty minutes. Small steamers
so ply to it from the north end of the bridge every
alf hour. As a town, Greenwich is of no moment; its
ospital and parks are the only objects of attraction to
rangers. As you enter its streets, you perceive that it
s a seafaring look, and does not resemble the
ther places of population in the environs of the capi-
al. Towards its eastern extremity stands the hospital,
ronting the Thames, and has a perfect command of
e passages on the river. This superb hospital con-
ists of four edifices, unconnected with each other, but
erally forming an entire structure, lining three
des of an open square, that side on which there is no
uilding being next the water. The whole is built of
one, in the best possible style; and along nearly
e entire part are lofty colonnades, with handsome
ofs and covered overhead, to protect those under-
eath from the weather. The square interval in the
ntre, which is 273 feet wide, is paved also with smooth
one, and ornamented in the middle with a statue of
eorge II., by Rysbrach. Beyond the edifices, on the
ast, rises the splendid park of Greenwich, dotted with
ne tall trees, and crowned at the top with the
oyal Observatory buildings.

The portion of these beautiful buildings was originally
uilt in the reign of Queen Elizabeth, since whose time various
ther edifices and additions have been made, but chiefly
uring the reign of William and Mary, who, in the year
689, established an hospital for invalid seamen,
hich purpose the buildings are still exclusively de-
oted. By the last accounts it contains 2710 pensioners,
ho, with a variety of officers for the government
f the house; and gives support to 32,000 out-pension-
rs. The institution is supported by a payment of six-
ence per month from every sailor in the royal navy,
ertain dues and donations, and other means. The
umber of individuals who reside within the walls is
bout 3300. The inmates have a strikingly antique air.
hey are all old sailors, with countenances well browned
y local suns, and bleached by the tempests of the
ea; some hobbling on a wooden leg, others with an
mpty sleeve, a few with only one eye. Their clothes
re of a dark blue colour, of an antiquated fashion.
A number wear cocked hats, which add greatly to their
supposed antiquity; the boatswains, or other warrant
officers, are allowed a yellow trimming or lace to their
garments.

There is an air of much contentment, comfort, and
peacefulness, in this well-regulated establishment. An
abundance of food is allowed, the clothing is warm and
comfortable, the accommodations in the house are good,
and each man, according to his rank, has from a shil-
ling to half-a-crown a-week, as an allowance for pocket-
money. The outer gateway, and the interior parts of
this establishment, are under the care of the pensioners
themselves, who show the utmost attention to strangers,
manifesting a politeness and good nature characteristic
of the profession of the sailor. Small sums are taken
for exhibiting the different places worth seeing, but the
money goes to the general fund, or for the board and
education of the children of seamen; and the amount
tendered by visitors is instantly transferred to the box
for its reception.

The chief *lion* of the establishment is the painted
hall, which is in the west wing. It consists of a great
room and one smaller but equally lofty, leading from its
upper end by a flight of steps. A vestibule and flight
of steps are between the outer doorway and large
room. The appearance of the whole interior on en-
tering is very imposing, the high roof being covered
with paintings, as also the farther extremity fronting
the entrance; and although these paintings, from ex-
hibiting a mixture of fantastic heathen gods and god-
desses with royal and other portraits, are not individ-
ually in good taste or of any value, they serve to give
a good general effect to the noble apartments they
adorn. Along the walls are hung a collection of pic-
tures, partly portraits of celebrated navigators and
admirals, and partly depicting distinguished naval vic-
tories, each being a present to the institution by some
benefactor. A good portrait of Captain Cook, by Dance,
presented by Sir Joseph Banks, adorns the vestibule.
A number of portraits, by Sir Peter Lely, Dahl, Sir
Godfrey Kneller, and others, have been presented by
George IV. There are also several by Sir Joshua
Reynolds. A little garrulous old sailor, with a single
sparkling eye, and a wonderful warmth of devotion to
the excellences of the institution, points out the beau-
ties of the various artists, and descants on the extra-
ordinary deception in the perspective of the figures,
which he again and again assures the beholder do not
stand out from the walls or from the plaster, but are
quite flat, and "all as smooth as glass." The painted
ceiling of the great room was executed by Sir James
Thornhill in 1703, and several subsequent years: from
a miscalculation as to the time required for the work,
the remuneration fell far short of what it ought to have
been. It is related that, in consequence of the length
of time he had to lie on his back painting the ceiling,
the artist could never afterwards sit upright. In the
smaller apartment are shown several models of ships
of war, admirably executed in wood; the coat worn by
Nelson at the battle of the Nile; and the astrolabe of
Sir Francis Drake, a curious brass instrument of an-
tique fashion, used for nautical observation. It has been
computed that nearly fifty thousand persons annually
visit this magnificent suite of apartments, in which the
excellent taste and judgment of the distinguished ar-
chitect, Sir Christopher Wren, are displayed not only
by their just proportion and embellishment, but in that
studious regard to picturesque form and outline which
he has bestowed in all his designs.

The park extending behind the hospital—ever open
to the public—comprehends a considerable space of
ground, of great natural and artificial beauty. A path-
way amidst lines of tall trees leads to a piece of rising
ground or mount—quite a hill to a Londoner—which,
on holidays, generally exhibits a mirthful scene, lads
and lasses of the humbler classes considering it as a
feat to run down the slope without falling or making a
stop. On the summit is the Royal Observatory, founded
by George III. for the promotion of astronomical

science, and the scene of the labours of some men of distinguished ability. An astronomer-royal, supported by the bounty of the crown, constantly resides and pursues investigations in the Observatory. It is scarcely necessary to remind the reader that, from this spot, British geographers measure the longitude in their maps and charts.

Greenwich Observatory.

Deptford adjoins Greenwich on the west, being only separated from it by a muddy river called Ravensbourne, the mouth of which forms an estuary known as Deptford Creek. Like Woolwich, this place is celebrated for its royal dockyard, commenced also in the reign of Henry VIII. The dockyard, with the victualling department and offices, covers above thirty acres. While Woolwich is now devoted to the preparation and custody of naval and military stores, Deptford is chiefly used for the building of ships; and it possesses wet and dry docks, mast houses, smiths' shops, with about twenty forges for making anchors. From 1000 to 1500 men are usually employed here. The principal depôt, however, for large vessels of war laid up in ordinary, is at Sheerness, near the mouth of the Thames. Peter the Great of Russia, in 1698, studied the art of ship-building at Deptford. In the Thames, near Deptford, may be seen moored the hull of a ninety-eight gun ship, called the Dreadnought, which was dedicated by George III. as a seaman's hospital, and, as is indicated by the inscription on its side, it is open to the reception of sick or disabled seamen of any nation. This noble charity is supported by voluntary contributions.

We now proceed to notice the chief public buildings and objects and places of attraction in and about London, beginning with the Port and places of importance on the Middlesex side of the river.

PUBLIC BUILDINGS, &c., IN LONDON.

The Port.—That part of the river between London Bridge and Blackwall, an interval of several miles, but more particularly the part immediately below the bridge, constitutes the Port, and here are constantly seen lying at anchor great numbers of vessels. As a relief to the river, and for other reasons, there are several very large docks; the lower, and most important, being the East India Docks, which consist of two spacious basins. The next are the West India Docks, the entrances to which are at Blackwall: in these large depôts of shipping connected with the West India trade may at all times be seen some hundreds of vessels, loading or unloading in connexion with the warehouses around. The largest of these docks contains thirty acres of water, and is twenty-four feet deep. Farther up the river, and near the Tower, in the district called Wapping, are the London Docks and St Katharine's Docks. The London Docks consist of one grand enclosure to the extent of twenty acres, and another of smaller dimensions. These are surrounded by warehouses for the reception of bonded goods, and beneath the warehouses are vaults for bonded liquor. The principal warehouse, entirely devoted to the k tobacco in bond, till it is purchased and the d paid, is situated close beside a dock of abov in extent, called the Tobacco Dock. The Tobac house is the largest covered building in the occupies no less than five acres of ground, ar commodation for 24,000 hogsheads of toba sight of this extraordinary warehouse, an wine vaults, is calculated to convey the most cent conceptions of British commerce. The arched with brick, and extend in one direc continuous line about a mile in length, with lines also of great length, the whole being streets of a town under ground. Along the ranged pipes of wine to an amount apparentl limit. There is accommodation for 65,000 pip cellars being dark, all who enter and go thro carry lights. Admission may be had by pro order from a wine-merchant to taste and exa pipes he may have in bond: a cooper accomp visiter to pierce the casks. Besides this la which principally contains port, there are otl for French wines, &c. The various docks ar perty of joint-stock companies, who receive dues of various kinds for their use. At the s river adjacent to St Katharine's Docks, lie lar vessels, which sail to and from Edinburgh distant ports. Passing the Tower, there is a c series of wharfs for shipping and steam-v about a mile to London Bridge, the traffic of being here most dense, and the river at being called the Pool. In this chosen seat merce, and at a short distance from the bri upon the river, is situated the *Customhouse*, an immensely large stone building, which wa 1814, on the spot occupied by a former cus destroyed by fire. The north front, in whi entrance, is towards a narrow and dirty al Lower Thames Street. There is nothing wo ment's notice in or about the building, exce long room, in which the chief part of the b transacted; it measures 190 feet long, 66 f and 55 feet high. The number of clerks, searc other officers of the establishment, is about sand. At wharfs between the Customhouse bridge, lie those numerous steam-vessels whi Gravesend, Margate, and other places of res the Thames, also steamers for continental po don, as has been observed, possesses no line of the river. The trade with the ships is carr wharfs jutting upon the water. The Thames under strict police regulations with respect certain places are assigned to different class sels, including those which arrive from Newc coal, and all coasters. The number of shi arrived from foreign ports in 1837 was 562 a burden of 1,051,923 tons; and the number of including Irish vessels, which arrived the sa was 21,322, with a burden of 2,911,756 t customs duty collected at the Port in 1834, am the enormous sum of £9,576,972. Of the a imports by canals, railways, and roads, there c just estimate.

The trade connected with the Port is carr the closely constructed part of the town adjac Thames, and backwards to the centre of the c most the whole of this district consists of narro environed by warehouses and offices, making nal show, but in which an incalculable amoun is going on. The offices of many bankers, shi insurance companies, are situated hereabout site this quarter, on the Surrey side of the equally dense masses, are numerous shippin warehouses, porter breweries, and manufacto

The Tower.—The Tower of London, which of the principal sights of the metropolis, is a houses, towers, and prison-like edifices, situ low and obscure locality, on the north ban Thames, and separated from the crowded

of the city by an open space of ground called ...hill. The Tower was founded by William the ...ror, to secure his authority over the inhabitants ...don; but the original fort which he established ... spot was greatly extended by subsequent mo... ; and in the twelfth century it was surrounded ...eat ditch, which was improved, as it is now seen, ... reign of Charles II. Within the outer wall the ...d measures upwards of twelve acres. Next the ...there is a broad quay, and on this side also there ...channel by which boats may pass into the main ...of the place. This water entrance is known by ...me of Traitor's Gate, being that by which state... ...ers are conveyed out in boats to proceed for trial ...minster. The interior of the Tower is an irre... ...assemblage of short streets and court-yards, with ...ks, houses of keepers, &c. The chief buildings ...the White Tower for prisoners, an ancient chapel, ...dexance-Office, the Record-Office, the Jewel-Office, ...rse Armoury, the Grand Storehouse, and the ... Armoury. Strangers, on applying at an office at ...trance from Tower-hill, are conducted through ...ublic establishments. The principal objects of ...sity are the immense store of fire-arms, sufficient ...ip 150,000 men, and beautifully arranged for ...; a collection of cannon, being trophies of war; ...ese armoury, being a most interesting collection ...ts of mail, on figures; and the crown and other ...ia of royalty. Fee for seeing the armoury, 6d.; ...gems, 2s. 6d.

Tower-hill, facing the Tower, are placed two pub... ...tablishments—the *Trinity House*, being the office ...corporation whose duty consists in superintending ...ercants of British shipping; and the *Royal Mint*, ...arge and elegant building pointed out as the Mint, ...ins the offices of clerks and other functionaries of ...stablishment. The buildings in which the coining ...performed are situated in the courts behind, and are ...ies of neat workshops, containing a large steam-... ...e, as a moving power, melting pots, and machi... ...for striking the coins. This machinery is exceed... ...interesting, and the whole is a model of exactness. ...gers can only be admitted by an order from a ...ior officer connected with the establishment.

...ames Tunnel.—With the view of effecting a ready ...unication for waggons and other carriages, and ...passengers, between the Surrey and Middlesex ... of the river, at a point where, from the constant ...ge of shipping, it would be inconvenient to rear a ..., a tunnel or free passage beneath was designed ...carried into execution by a joint-stock company, ..., however, has been largely assisted by govern... ... The tunnel, from a plan of Mr Brunel, was be... ...n 1822, at a point about two miles below London ...ge, entering on the southern shore at Rotherhithe, ...sing near the London Docks on the other. After ...ntering numerous difficulties, including several ...ations from above, the work has been brought ...ly to a close (January 1841). The tunnel consists ...o distinct avenues or arched vaults, but connected ...assages with each other; each avenue being of ...height and breadth as to afford a waggon road ...footpath. All carriages and passengers going from ... to north will take one avenue, and those going ...opposite direction will take the other. In its in... ...plete state, the tunnel is open to visitors, who de... ...d to it by a spiral stair on the Rotherhithe side. ...n completed, it will be entered by an inclined road ...ch end.

... Monument—This is a stone column situated ... small space of ground adjoining the southern ...mity of King William Street, on the descent to ...r Thames Street. It was erected (1677) in com... ...oration of the great fire of London, which began ...e distance of 202 feet eastward from the spot, in ...; and its height has on that account been made ...eet. It is a handsome fluted column, designed by ...hristopher Wren, with a gilt spherular ball on the ...it. Visitors are allowed to ascend by a stair to the top, on paying 6d. each. The fabric is now infirm, and its removal has been proposed.

Bridges.—Old London Bridge crossed the Thames a short way below the new erection, and was built in 1176, having a considerable rise in the middle, and twenty narrow arches. The new bridge, which is a remarkably fine stone structure, was designed by the late John Rennie, Esq., and opened in 1831; it consists of five arches, that in the middle being 150 feet span, and with a spacious level roadway, connected with the beautiful new thoroughfare, King William Street, at the north end, and with the main street of the Borough on the south. The old bridge was removed after the new one was built. On one of the days in August 1840, it was found, on a careful inquiry, that there passed along King William Street, from eight in the morning till eight in the evening, 11,010 carriages, or an average of 970 an hour, or 15 in every minute. On a day of September, in the same year, it was found that there passed during the same space of time, 53,503 foot passengers, averaging 74 per minute.

Southwark Bridge is the next above London Bridge. Its piers are of stone, supporting three arches of immense width; the span of the central arch is 240 feet, or the widest in the world. There are 5200 tons of iron in this bridge. It is the property of a company, who exact a toll from passengers; and from this cause, as well as from having a bad entrance, there is remarkably little traffic upon it.

Blackfriars Bridge, the next in order, was finished in 1768, and consists of nine elliptical arches; the centre one being 100 feet in span, and the entire length 995 feet; the breadth of the carriage-way is 26 feet, with 7 feet of pathway on each side. This bridge rises in the old-fashioned manner; and has been so badly constructed, as recently to require an almost entire renewal of piers; it is now much improved. It is connected with Fleet Street, at the foot of Ludgate Hill, by the intermediate thoroughfare called Bridge Street, and at its southern extremity it has the long and wide thoroughfare, Blackfriars Road. The river and St Paul's are best seen from this bridge.

Waterloo Bridge, which is the next above, crosses the river opposite the central part of the Strand. It was finished in 1817, having taken only six years to build. The design was furnished by Mr G. Dodd, and exceeds in elegance any similar work of art. It consists of nine arches, each of 120 feet span, the whole, including the parapet, built of granite. The roadway at each end is also brought to a level by secluded arches. The length of the bridge, within the abutments, is 1242 feet; width of carriage-road 28 feet, and of each side-path 7 feet. The whole being perfectly level, the bridge may be considered by far the finest in the world. Waterloo Bridge is the property of a company, who exact a toll of 1d. from each passenger; on this account, it is little used as a public thoroughfare.

Westminster Bridge, which crosses the river at a point immediately adjoining Westminster Hall, to Lambeth, is of an old-fashioned structure, with a considerable rise from both ends; it was finished in 1750; extends a length of 1223 feet; is 44 feet wide; and has thirteen large and two smaller arches, of the semicircular figure; width of middle arch, 76 feet. At the side of the pathways, and rising above the piers, there are recesses, twelve of which are partially covered with cupolas, and these prominent objects give the bridge a peculiar appearance.

Vauxhall Bridge is the most westerly in the series, and crosses the river from a point above Millbank to the thoroughfare adjoining Vauxhall Gardens and Kennington. It consists of nine cast-iron arches resting on stone piers. Standing very much aloof from the lines of general intercourse, and being the property of a company who exact a toll from passengers, it is comparatively little used. In consequence of a considerable bending in the Thames, Vauxhall, Kennington, and other places in that neighbourhood, can be reached by much shorter routes from the centre of the metro-

polis, by crossing at London or Blackfriars Bridges, than at either the bridges of Westminster or Vauxhall.

Proceeding with our description of public buildings and places of importance in the city, the first we come to in going westward, is the

India-House.—This is a large building on the south side of Leadenhall Street, erected in 1799, and containing accommodation for the home government of the East Indies. Here there is a grand court-room for the directors of the company, large sale-rooms for the disposal of tea and other goods, and offices of various kinds. The chief places of attraction in the establishment are the library and museum, both containing many objects of curiosity from the East. The principal warehouses, which are of immense extent, are in Bishopsgate Street. The museum of the India House is open only on Saturday from ten to twelve, *gratis*, all the year except September.

Corn-Exchange.—In Mark Lane, a thoroughfare going southwards from Leadenhall Street, near the India-House, is the Corn-Exchange, a large plain building, in which the greater part of the sales of corn take place. Monday is the market-day, on which the greatest bustle prevails.

Royal Exchange.—This building, erected in 1566, and consisting of a handsome quadrangular structure, situated on the north side of Cornhill, was burnt down a few years ago, and upon its site a new Exchange is in course of erection.

Bank of England.—Standing in some measure behind the site of the Royal Exchange, facing Threadneedle Street, are seen the extensive series of stone buildings containing the Bank of England. The principal front, seen from the corner of Cornhill, consists of a long line of wall, ornamented with handsome fluted pillars, cornices, and other devices; the windows being blank, the aspect is dead and not by any means pleasing. In the centre is the principal entrance, which conducts to an inner open court, and thence the main building, in which is the telling-office, is reached. Thus far the house is freely open to visiters. The whole buildings and courts include an area of about eight acres, and were completed in 1788. The telling-room shows a scene of extraordinary activity—clerks counting and weighing gold coins, porters going to and fro, and crowds of tradesmen and others negotiating business at the counters. The other and more private parts of the Bank can be seen only by an order from a director. The most interesting departments are the bullion office, in a vaulted chamber beneath, entering from a back court, the treasury, and the apartments in which the notes of the bank are printed. In this latter department there is a large steam-engine, which moves two printing machines, twelve plate presses, and other mechanism—the whole being in the most beautiful order, and forming a most interesting sight. In 1832, there were employed in the Bank, 820 clerks and porters, and 38 printers and engravers; there were besides 193 pensioners. The salaries and pensions amounted to £218,003, the house expenses to £39,187, and the allowance to directors £8000. In a spacious circular chamber, called the Rotunda, which is near the telling-office, a considerable business in the sale of government stock is negotiated. The three per cent. consols office, and dividend office, are fine large apartments adjoining. The hours at which the Bank is open are from nine in the morning till five in the afternoon, holidays excepted.

The most striking view in the interior of the city is at the open central space whence Threadneedle Street, Cornhill, King William Street, and Cheapside, radiate in different directions. While the corner of the Bank of England bounds this space on the north, it is environed on the south by the

Mansion-House.—This is a tall square mass of dark stone building, with a portico of six Corinthian columns in front, resting on a low rustic basement—the design being heavy and inelegant. This edifice, which projects a considerable length behind, is the official residence of the Lord-mayor of London ovided by the city co poration. Besides an ex suite of domestic apar ments, it contains a n state rooms, in whic company is received tained. The chief these rooms are the l all, and the ball-roo which have a grand appearance. The annual allow ance to the lord-mayor is £8000, and in the Mansion House he has the use of a superb collection of plate he is likewise allowed the use of a state coach, &c.

Cheapside.—This great central thoroughfare, which closely lined with shops of drapers and other trades men, is one of the oldest and most respectable street of the city. On each side narrow streets diverge into the dense mass behind—Ironmonger Lane, King Street, Milk Street, and Wood Street on the north and among others, Queen Street, Bow Lane, and Old 'Change on the south. The greater part of those back streets, with the lanes adjoining, are occupied by the offices or warehouses of wholesale dealers in cloths, silks, Manchester goods, articles of Scotch manufacture, paper, &c., and are resorted to by country shopkeepers for supplies. Across the bottom of King reet stands

Gu hall, or the townhall of London, where are held i of the livery to elect members of parliament, or, sheriffs, and others, and where the princi- entertainments are given. The building is old, received a new Gothic front in 1789. The interior of the grand hall is 153 feet long, 48 feet broad, and 55 feet high; it is one of the largest rooms in London, and can accommodate about 3500 persons at dinner. Two clumsy figures called Gog and Magog, interesting to vulgar curiosity, are placed at the west end of the hall. The apartment is decorated with several historical pictures and monuments. Adjoining are various offices for city courts.

Bow Church, or, more correctly, the church of St Mary-le-Bow, occupies a conspicuous situation on the south side of Cheapside, and possesses a spire of great elegance, designed by the famous architect, Sir Christopher Wren. The clock projects over the street from the lower part of the tower. Standing in the centre of the city, those who are born within the sound of its bells are jocularly called *Cockneys*, a name equivalent to genuine citizens. The consecration of the bishops of London takes place in Bow Church.

At the western extremity of Cheapside is a dense clump of building, in which is Paternoster Row; on the right or north is St Martin le Grand, a street in which is the Post-Office; and on the left is St Paul's Churchyard.

Post-Office.—This is the grandest of all the public buildings of London, not reckoning those of an ecclesiastical order. In comparison with its lofty central portico, all other columnar structures in the metropolis seem insignificant. The whole edifice is of stone, and measures 389 feet in length; and the three porticoes with which it is adorned are of the Ionic order. Beneath the central portico is the entrance to a spacious hall (80 feet long, 60 feet wide, and 53 feet high), having also an entrance at the opposite extremity; and on both sides are the various windows or wickets for receiving letters designed for the foreign, inland, or town post, &c. The upper storeys in the building contain sleeping apartments for numerous clerks belonging to the foreign post-office, and servants. The building is enclosed by a railing, and at the north end is a courtyard in which mail-coaches range up and depart with their load of bags every evening at eight o'clock. From six to seven o'clock in the evening a prodigious bustle prevails in putting letters into the Post-Office; and on Saturday evening, when the Sunday newspapers are posted, it exceeds all descri n. The spectacle afforded at that time is one of the m . resting sights of London. Immediately behind the st-Office stands Goldsmiths' Hall, a new and v al nt building of Grecian architecture, and of larg ions, but lost to view in this unhappily confined m.

St Paul's.—St Paul's C , the most prominent

London, and whose lofty dome towers in ma- r the mean rows of brick houses which environ in the centre of an enclosed churchyard of imensions, at the head of Ludgate Hill Street. ı was planted here four hundred years before nan Conquest, and, under various shapes and s, it remained till destroyed by the great fire n, in 1666. An entirely new edifice was then ı its stead, the important work being committed ristopher Wren. It is built in the form of a oss, and measures 514 feet in length, 286 in and 370 in height, to the topmost pinnacle. ly, the walls, which have a dark sooty appear- cept where bleached with the rains, exhibit a ange of windows. There are three porticoes at entrances, on the north, west, and south. That est is the principal, with twelve lofty Corinthian elow, and the angles above crowned with hand- l towers, the size of ordinary church towers or

But this entrance, which fronts the street udgate Hill, is apparently disused, and the entrance is by the north portico and flight of n entering, the impression produced by the of the internal space is very great, although entirely want those decorations which give St nd many less remarkable continental churches beauty and interest. The only objects de- ı please in detail are the statues and sepulchral nts ranged along the sides of the aisles. The ı of St Paul's are considerable, and support rebendaries and other functionaries, the insti- ing a collegiate church. Prayers are read orning and afternoon. Through some fine enwork, a view is obtained of the place where l services are performed, and which is highly l with dark oaken carved work. If the stranger ne may mount by means of stairs and ladders op of the cupola; and though he be taxed all sum at the different stages, he will be paid by the extensive view from the balcony y, which comprehends the whole of London, country beyond its outskirts, and the Thames lacidly in its winding course through the dense ouses. Altogether, St Paul's is a magnificent ; and though it cost a million and a half of ı the erection—and that was a great sum in nteenth century—the price was well spent by n on so worthy an object. The clock-work t bell of St Paul's always attract the notice of

The pendulum measures fourteen feet in hile the mass at its extremity is one hundred- The great bell, which is only rung when a mem- e royal family dies, is placed in the southern ove the western portico, and weighs four and s, and is ten feet in diameter. The fine deep his mighty bell, on which the hours are struck, lemnly in a quiet evening across the metro- l are heard distinctly by families at their fire- eral miles distant. In the immediate vicinity of , the town has a retired cloistered appearance, s of the very streets and lanes giving token of mer connexion with the religious structure erical attendants. The enclosed churchyard is led by a street, not of the broadest dimensions, emmed in with houses, now chiefly dedicated the lower storeys being, as usual, shops. An hed passage on the south side of the church- ls to Doctors' Commons, or the offices connected ecclesiastical courts. St Paul's is open each r from 9 to 11, and from 3 to 4; and on Sun- ı 10 to 12, and from 3 to 5. An authorised fees is exhibited at the door.

ester Row is a continuation of Cheapside, but is as a thoroughfare, though it communicates by se alleys or courts with the Churchyard, and, stern extremity, by means of another cross led Ave-Maria Lane, leads into Ludgate Hill. ter Row, or "the Row," as it is familiarly is a dull street, hardly wide enough to permit two carriages to pass each other, with a narrow pavement for a single rank and file on each side, and a gutter in the middle. The houses are tall and sombre in their aspect, and the shops below have a dead look, in comparison with those in the more animated streets. From a very remote period, this alley has been the seat of booksellers and publishers, who, till the present day, continue in such numbers as to leave little room for other tradesmen. At the western extremity of Paternoster Row, a passage leads from Amen Corner to Stationers' Court, in which is situated Stationers' Hall, and also several publishing houses.

Christ Church Hospital, or the *Blue Coat School*, as it is commonly called from the colour of the boys' dress, is situated within an enclosure on the north side of Newgate Street, and is one of the most splendid among the charitable foundations of London. The buildings stand on the site of a monastery of Greyfriars, which was granted by Henry VIII. to the city for the use of the poor; and his son and successor Edward VI. greatly extended the value of the gift, by signing a charter for its foundation as a charity school, and at the same time endowing it with sundry benefactions. The hospital was opened for the reception and education of boys in 1552. Charles II. added an endowment for a mathematical class, and with various augmentations of endowment, the annual revenue is, we believe, about £40,000. This income supports and educates nearly 1200 children, 500 of whom, including females, are boarded at the town of Hertford for the sake of country air. The management of the institution is vested in a body of governors, composed of the lord-mayor and aldermen, twelve common-councilmen chosen by lot, and all benefactors to the amount of £400 and upwards. The children are admitted without reference to the city privileges of parents; about one hundred and fifty are entered annually. After instruction in the elementary branches of education, the greater number leave the seminary at the age of fifteen, those only remaining longer who intend to proceed to the university, or to go to sea after completing a course of mathematics. There are seven presentations at Cambridge, and one at Oxford, open to the scholars. The buildings of the institution embrace several structures of large dimensions, chiefly ranged round open courts, with cloisters beneath, and a church, which also serves as a parochial place of worship. The only part of the establishment worth examining for its architecture or size is the great hall, occupying the first floor of a building of modern date, and in the Gothic style. It measures 187 feet long, 51 feet broad, and 47 feet high, and possesses a small gallery at each end. In this magnificent apartment, the boys breakfast, dine, and sup, under the direction of female *gouvernantes*. Before meals, one of the elder inmates, from a pulpit, says a long grace or prayer, at the commencement of which the whole of the boys, in lines at their respective tables, fall on their knees, and present a striking spectacle. Each boy is dressed in the pauper costume of Edward VI.'s reign; the garment consisting of a long dark-blue coat, breeches, and yellow worsted stockings. They are also provided with woollen caps, but these are so small and flat as to be rather for show than use.

Newgate.—At the western extremity of Newgate Street, and fronting the Old Bailey, a street which crosses to Ludgate Hill, stands Newgate, the general criminal prison for the city and county. The exterior presents high dark stone walls, without windows, and with entrances from the side next the Old Bailey, at one of which public executions take place. The earliest prison here was in the portal of the *new gate* of the city, as early as the thirteenth century, and hence the name. The present modern edifice was in course of erection in 1780, when it was partially destroyed by the riots of that year; and it has since been greatly extended, one of its improvements being the exclusion of debtors, who are now confined in a jail in Whitecross Street, and a still greater improvement being the classification of prisoners in wards. The establishment is

kept in the cleanest possible condition, and is otherwise managed with great care and humanity. The cells for condemned prisoners are at the north-east corner, next to Newgate Street. Strangers are admitted to inspect the prison by an order from one of the sheriffs or other competent city authorities. In buildings adjoining the prison are held the Central and other criminal courts. At the head of Snow Hill, and nearly opposite Newgate, stands St Sepulchre's Church, the sounding of whose bell has admonished many an unhappy wretch of the approaching hour of execution.

Temple-Bar, &c.—The boundary of the city, at the western termination of Fleet Street, is marked by Temple-Bar, consisting of a wide central archway, and a smaller archway at each side for foot passengers. There are doors in the main passage which can be shut at pleasure, but practically they are never closed except on the occasion of some state ceremonial, when the lord-mayor affects an act of grace in opening them to royalty. The structure, which was designed by Sir Christopher Wren, and erected in 1672, must now be considered as a serious obstruction to the living stream passing below. The neighbourhood of Temple-Bar, on the city side, is much occupied by offices, halls, and residences of lawyers and law-students. In or near Chancery Lane, northwards from Fleet Street, are situated Serjeant's Inn, Lincoln's Inn, Clifford's Inn, &c., while Gray's Inn and Furnival's Inn are situated on the north side of Holborn. These and other *Inns of Court*, as they are termed, are large establishments, with apartments for the residence of law-students, who, however, do not attend classes, but only rent rooms and pay for their dinners. After residing and paying at an ordinary for a certain length of time in these places, young men are considered qualified to be called to the bar. At the foot of a lane near Temple-Bar, on the south side of Fleet Street, is a most extensive series of buildings, composing several squares and rows, called the Temple, and being the place of residence of the members of two societies, the Inner and Middle Temple, consisting of benchers, barristers, and students. The establishments possess a neatly trimmed garden, adjoining the river. In the cluster of buildings lying east from the Temple, once existed the sanctuary of Whitefriars, or *Alsatia*, as it was sometimes called, a description of which is given by Scott in the "Fortunes of Nigel." The streets here are still narrow and of an inferior order, but all appearance of Alsatians and their pranks is gone.

Strand.—The Strand is the long but somewhat irregularly built street in continuation westward from Temple-Bar, the thoroughfare being greatly incommoded by two churches, which, at a distance from each other, stand in the very middle of the way. In the seventeenth century, the Strand was a species of country road, connecting the city with Westminster, and on its southern side stood a number of noblemen's residences, with gardens towards the river. The grandest of these mansions was a palace, which had been erected in 1549 by the Duke of Somerset, Protector during a part of the minority of Edward VI.; on whose attainder it became crown property and a royal residence. The edifice was entirely removed in the reign of George III., and on the spot was erected, from designs of Sir William Chambers, about the year 1780, that magnificent quadrangular structure called *Somerset House*, which is devoted to the accommodation of various government offices. This noble stone building has its main front towards the Strand, while on the rear it presents an almost equally elegant façade to the Thames, which it closely overhangs. In the middle of the Strand front is the principal entrance, consisting of three open archways, leading into a spacious quadrangular court in the centre. The lines of buildings around, as may be observed from inscriptions over the doorways, contain the Navy Pay-Office, Stamp-Office, &c.; and in a brick building behind, at the north-western angle, is the office of the Poor-Law Commission. In the central part of the north line of building, near the river, is the suite of apartments devoted to various matters c with the royal navy, and including a museum o of ships, &c. Adjoining Somerset House on t and entering by a passage from the Strand, is of rather plain but massive brick buildings, lately for the accommodation of *King's College*. Th contains no other public structure of importa has some elegant stuccoed buildings at the we tremity, on the northern side; opposite, and o ing Charing Cross, is the large mansion of the Northumberland, distinguished by the figure o the family crest, on the summit.

Charing Cross.—The open space called Chari is marked by a figure on horseback of Charle the name of the locality is derived from the village of Charing, which once stood upon the the north side is an open quadrangular space, by the clearing away of buildings, now called T Square, and in the centre of which, a pillar is in commemoration of Lord Nelson. At the n angle stands *St Martin's Church*, whose po Sir Christopher Wren, is reckoned the most of its kind in the metropolis, or perhaps in th Adjacent, closing the northern side of the squ been lately erected, at an expense of £62,00 by Parliament, a building containing the *Natio lery* of Pictures. Mr Wilkins was the archi is in the Grecian style, but so long and so defi height or grandeur, as to be contemptible as a art. The National Gallery, which is freely op public, consists chiefly of a collection of pictu chased for £50,000 from the heirs of the late gerstein. The Royal Academy has apartment eastern division of the building, for its exhib pictures. The National Gallery is open on Tuesday, Wednesday, and Thursday, and the Easter and Whitsun weeks except Saturday, till five; but is closed for six weeks from the en second week in September.

Whitehall.—Whitehall Street, which runs in ern direction from Charing Cross, is a long cious thoroughfare leading to Parliament Stree terminates in Palace Yard, where the Houses liament are situated. On the western side of hall Street, and nearly throughout its length, series of large buildings, in various styles of ture, and used as government offices. The fir series, on our right going southwards, is the Ad which may be known by the telegraph on its ro is the Horse Guards, where the business of t is transacted, and which is outwardly distingu two mounted guards at the gateway, and an leading to St James's Park behind; next is t sury; and, lastly, the Board of Trade, and offi Privy-Council. A short street or place, leadi the corner of the building, and called Downing contains the official residences of the first lor treasury, the chancellor of the exchequer, th of the foreign and colonial secretaries of st On the eastern side of Whitehall Street, and the Horse Guards, stands a tall square massive of handsome architecture, designed by Inigo Jo built, at the order of James I., to serve as a ban house to his adjoining palace of Whitehall. The which reached to the river, was accidentally bur in 1695, when St James's Palace, in St James was erected, leaving the Banqueting-House to as an edifice for any public purpose. The gr is now used as a chapel; its roof is ornamen a painting by Rubens, representing the ap of James I. The Banqueting-House derives s choly interest, from having been the scene of cution of Charles I., who, on the 30th of January passed from an open window to a scaffold in fron he was beheaded in the presence of an immen course of spectators.

Westminster Hall—Houses of Parliament.— south side of Palace Yard, stands a somewh fused cluster of buildings of ancient and mode

ıg a central and beautiful old Gothic fabric, estminster Hall, some parasitic edifices de- ffices for courts of law, and other structures, re-edified wrecks of the houses of Parliament, rn a few years ago. Westminster Hall, which d exposed to Palace Yard, was built by Wil- us in the years 1097-8, and may be said to the body of a church; the interior is of ex- ry dimensions, being 270 feet long, 74 broad, igh; and the roof, consisting of ancient oak- ı an air of solemn grandeur. The floor is the free walking to and fro of lawyers, mem- ıs House of Commons, and others. The pre- se of Commons and House of Lords are neat nodious; but being only for temporary use, ndid edifice is erected for their accommoda- er to the river, nothing further need be said

nster Abbey.—Nearly opposite the houses of nt stands Westminster Abbey, open to inspec- ıe north and east, but much crowded upon by elling-houses on the west. In very early times, f ground was a small insular tract, surrounded ters of the Thames, and called Thorney Island. ıonastic institution was founded on the intro- f Christianity into Britain. Under Edward ssor, an abbey was raised upon the site of the onastic building. The ground plan, as usual, orm of the cross; rights and endowments were and the edifice assumed a great degree of ıral grandeur. It had become the place for uration of the English monarchs, and William ıeror was crowned here with great pomp and , in 1066. Henry III. enlarged the abbey, and ing continued in the state in which he left it ry VII. added a chapel, built in the florid Gothic

Westminster Abbey.

hich the greatest skill of the architect and the was displayed; exhibiting the most splendid of the age, and so highly esteemed, that it was hat the remains of royalty alone should be in- hin its walls. During the reign of Henry VIII. was considerably defaced, but on the surrender nues, Henry raised Westminster to the dignity and its abbey was constituted a cathedral. It ver, afterwards reunited to London in 1550. ter Abbey, during the reign of William and s thoroughly repaired, and the towers added tern entrance, under the direction of the cele- Christopher Wren, to whom London owes so ts architectural grandeur.

gth of the abbey is 416 feet; breadth at the 203 feet; nave, 102 feet; height of the west 25 feet. The exterior measurement, including I.'s Chapel, is 530 feet.

ring at the great western door between the e magnificence of the abbey at once strikes der with reverential awe: nearly the whole terior appears in grand masses of towering Gothic columns of grey marble, connecting the pavement with the roof, and separating the nave from the side aisles. A screen divides the nave from the choir, which is surmounted by a noble organ, while beyond, the eye soars amid graceful columns, tracery, and decorated windows, to the summit of the eastern arch that overlooks the adjacent chapels. The walls on either side display a great profusion of sepulchral monuments, among which are many finely executed pieces of sculpture, and touching memorials of those whose exploits or exertions deserved the notice of posterity.

Above the line of tombs there are chambers and galleries, once occupied by nuns, but now solemn and dreary in their antiquity, though relieved by the sunbeam glancing across the misty height of the nave. The northern window is richly ornamented with stained glass, representing the Holy Scriptures surrounded by a band of cherubim, in the centre; on the sides, the Saviour, the Evangelists, and Apostles, appear in recumbent attitudes. From this window proceeds a calm ray of light, very advantageous to the display of the beautiful sculpture on which it falls. There are numerous tombs and monuments of noble persons, exquisitely imagined and executed, in emblematical groups or in faithful portraiture, presenting to the spectator subject for deep reflection.

The Chapel of Edward the Confessor is at the eastern end of the choir, and contains the shrine of St Edward; that it was an exquisite piece of workmanship is evident even in its decay. Here also is the coronation-chair, under which is placed the celebrated stone brought from Scone in Scotland by Edward I., in 1297. The Chapel of Henry VII. is also at the eastern end of Westminster Abbey; and among the ashes of many whose brows were decorated with diadems, are those of Mary and Elizabeth. The ascent to this splendid piece of Gothic art, which has been extolled as the wonder of the world, is by steps of black marble beneath a stately portico. The entrance gates display workmanship of extraordinary richness in brass. The effect produced on entering this chapel is solemn and elevating: the lofty ceiling is wrought in stone into an astonishing variety of figures and devices; the stalls are of oak, having the deep tone of age, with Gothic canopies, all elaborately carved. Here are installed the knights of the most honourable the Order of the Bath. In their stalls are placed brass plates of their arms, and above are suspended their banners, swords, and helmets; beneath the stalls are seats for the esquires. The pavement is composed of black and white marble, beneath which is the royal vault. The magnificent tomb of Henry VII. and Elizabeth his queen, stands in the body of this chapel, in a curious chantry of cast brass, most admirably executed, and interspersed with effigies, armorial bearings, and devices, alluding to the union of the red and white roses.

Westminster Abbey is a collegiate church, with a dean and chapter, who possess a considerable authority over the adjoining district. The abbey may be considered as subdivided into nine chapels; but in the present day divine service is performed only in a space enclosed with wood, near the eastern extremity of the building. It takes place daily at ten in the morning and three in the afternoon, though sometimes none are present but the officials. The public worship of the parish is conducted in the adjacent church of St Margaret.

The abbey is usually entered by a side door at Poet's corner, which is nearly opposite the House of Lords. Here strangers will find admittance daily, and be conducted through the building on payment of certain fees.

Penitentiary.—Beyond Westminster Abbey in a southerly direction, there is no public building or institution requiring notice, except the Penitentiary at Millbank, near the extremity of Vauxhall Bridge. This great establishment for the confinement and reformation of offenders of secondary turpitude, occupies a very low situation near the Thames, and the external wall includes eighteen acres of ground. The plan of

the building, or buildings, is that of a hexagon, with six interior courts, and a building in the centre. The cost of building it was between £400,000 and £500,000, and it is calculated to accommodate 400 male and 400 female convicts. Latterly, the silent and separate systems have been adopted in the prison, under particular regulations.

THE PARKS, ROYAL PALACES, &c.

The Parks, which form one of the most beautiful features of the metropolis, are situated chiefly in a series from the back of Whitehall Street, in a westerly and northerly direction, and are thus blended with the fashionable end of the town. The most ancient of these open grounds is

St James's Park, so called from St James's Palace, which partly bounds it on the north. Originally these grounds were a marshy waste, which was drained and otherwise improved by Henry VIII., who also took down an ancient hospital dedicated to St James, and built on its site the palace now called St James's. Charles II. improved the grounds by planting the avenues of lime-trees on the north and south sides of the park, and forming the Mall, which was a hollowed, smooth, gravelled space, half a mile long, skirted with a wooden border, for playing at balls. The southern avenue was appropriated to aviaries: hence it derived the appellation Birdcage Walk. The centre of the park was occupied by canals and ponds for aquatic birds. William III. threw the park open to the public for their recreation. It is nearly a mile and a half in circumference, and the avenues form delightful shady promenades. In the centre is a fine piece of water, interspersed with islands, and covered with swans and various water-fowl. On each side are spacious lawns, dotted with lofty trees and flowering shrubs. The lawns are separated from the avenues by iron railings, and at each entrance is a keeper's lodge. There are seven or eight entrances to the park, the king's guard doing duty at each, day and night. At the east side of St James's Park is a large gravelled space called the Parade, on which, about ten o'clock every morning, the body-guards required for the day are mustered—about seven or eight hundred men; and here the regimental bands perform every morning between ten and eleven o'clock. At the south side of the parade is placed a huge mortar, brought from Spain; and at the north end is a piece of Turkish ordnance, of great length, brought from Alexandria, in Egypt. A little farther north from the parade, is a broad flight of steps, giving entrance to the park from Waterloo Place, constructed by order of William IV.; these steps are surmounted by a lofty column, commemorative of the late Duke of York, which occupies the spot where lately stood Carlton Palace, the favourite residence of George IV. while Prince Regent. The buildings near this, which overlook the park, are lofty and elegant. Farther along the Mall, or avenue, is St James's Palace, an inelegant brick structure, having its front towards Pall-Mall. The interior consists of several spacious levée and drawing rooms, besides other state and domestic apartments. This palace is only used occasionally by the queen, the principal royal residence being now

Buckingham Palace.—This edifice stands at the west end of the Mall in St James's Park, in a situation much too low in reference to the adjacent grounds on the north. The site was chosen by George IV., and the structure rose under the care of Mr Nash, architect; when completed, after various capricious alterations, about 1831-2, it is said to have cost about £700,000. The edifice is of stone, with a grand centre, and a wing of similar architecture projecting on each side, forming an open court in front; on the extremities are colonnades, giving a noble expanse to the building. The basement is of the Doric, and the superior part of the building of the Corinthian order; the summits are adorned with statues. The interior contains many beautiful and magnificent apartments, both for state and domestic purposes; but so ill has the plan been conceived, that in a number of the passages quire to be kept lighted during the day. In of the palace is the Waterloo triumphal ar forms an entry to the palace.

The Green Park rises with a gentle slop north of Buckingham Palace, and is bound east side by many fine mansions of the nob a north-westerly direction from the palace i road called Constitution Hill, connecting St Park with Hyde Park Corner. On the nor line of terrace-like street, forming the we tremity of Piccadilly. The whole of the Gr is surrounded by iron railings, and is interes its unequal grassy surface, which rises consid the north side. From the highest ground pleasing prospect of Buckingham Palace, a James's Park with its ornamental grounds an of tall trees, over which Westminster Abbey cally rises, accompanied by the Gothic turret buildings. At the north-west angle of the p head of Constitution Hill, where Piccadilly te there is a triumphal arch of the reign of Ge elaborately decorated, but possessing little effect. Across the way is the handsome en Hyde Park; and here, in the after part of t fine weather, may be seen an extraordinary c of foot passengers, vehicles, and gentlemen c back, going to and returning from Hyde Pa the general traffic between Piccadilly and Ke Brompton, and other places in a westerly dire

Hyde Park is part of the ancient manor which belonged to the monastery of St Peter, minster, till Henry VIII. appropriated it di Its extent is about 400 acres, part of which is ably elevated. The whole is intersected wi roads, lawns with luxuriant trees, planted sin groups, presenting beautiful examples of di prospects. At the south-east corner, the entra Piccadilly, on an elevated pedestal, stands a and dark statue of Achilles, cast from the cann at the battles of Salamanca and Waterloo, thirty tons, and "erected to the Duke of W and his companions in arms, by their country

The long sheet of water called the Serpenti enriches the scenery of Hyde Park. At its extremity is a stone bridge of five large and tw arches, erected in 1826, giving access to the of Kensington Palace. On the level space Park, troops of the line are occasionally r The great road through the Park to Kensingt nominated Rotten Row, and is a fashionable r equestrians wherein to show off their high-bre Other roads display countless elegant equipag nobility, gentry, and others; while the footpath are railed off from the roads, are crowded well-dressed inhabitants of London, enjoying brity of the air and the gaiety of the scene, m ticularly between two and five on a Sunday af There are five entrances open from early mor nine at night. No stage or hackney coaches mitted within the gates of Hyde Park.

Kensington Gardens.—At the western extr Hyde Park lie Kensington Gardens, a large ground laid out in the ornamental park styl spersed with walks, and ornamented with r clumps of tall trees. Besides an entrance fro Park, there is an entrance from the Knigh road, or continuation of Piccadilly. The gro open daily to all respectably dressed persons the west end of the grounds stands Kensington a large red brick building, and which serves a dence for members of the royal family. It chased from Lord Chancellor Finch, and gre proved, by William III., since whose time the adjoining have been considerably extended, they now measure about two and a half mile cumference. These grounds form a most d public lounge during fine weather.

Regent's Park is situated considerably ab

the other parks, in a northerly direction from the preceding grounds, and consists of a circular enclosure of about 450 acres, which are laid out on the most approved principles of what is called landscape gardening; its centre is enriched with lakes, plantations, shrubberies, and eight beautiful villas. The park is surrounded by extensive ranges of buildings, forming splendid terraces, variously designated, and all decorated with sculpture in agreement with their respective orders of architecture; producing an effect of beauty and grandeur rarely witnessed. At the south end of the Park, the *Colosseum* stands conspicuous, with its immense Doric portico and circular roof, rising from a polygon of sixteen faces, occupying an area of 400 feet. The main design of this large structure is to exhibit a kind of panoramic view of London, and this is accomplished with surprising fidelity and effect. The representation is exhibited as seen from the top of St Paul's, and to gain this imaginary height, the visiter mounts a central tower. Besides this view of London, there are several conservatories and other sights connected with the Colosseum, all which are exceedingly worthy of being visited. On the border of the Park is the celebrated exhibition called the *Diorama*, which consists of painted representations of landscapes or buildings; on particular parts of the scene illuminations of different hues are so judiciously cast, as to produce a perfect resemblance to nature.

Zoological Gardens.—At the northern extremity of the Regent's Park are the Zoological Gardens, the property of the Zoological Society, and established in 1826. These gardens are very extensive, and being removed from the dingy atmosphere, noise, and bustle of London, they present an agreeable and truly country-like aspect. The grounds have been disposed in the style of landscape-gardening—here a clump of shrubby trees and border of flowers, indigenous and exotic; there a pretty miniature lake; and at proper intervals is seen a neat rustic cot, with its straw-thatched roof and honeysuckled porch. Much of the ground, also, is occupied as green meadows, either subdivided into small parks for deer and other quadrupeds, or dotted with moveable trellis houses, the abodes of different kinds of birds which require the refreshing exercise of walking on the green turf. Throughout the whole, neat gravel walks wind their serpentine course, and conduct the visiter to the bear-pit, monkey-house, aviaries, and other departments of the establishment. The gardens are open every week-day for the admission of visiters, who must previously procure an order from a member of the society, and likewise pay a shilling each at the gate.

The West End.—Returning up Whitehall Street to Charing Cross, the stranger may pursue his tour through Cockspur Street to Pall-Mall, and thence proceed up Regent Street. As he enters this new line of route, he will perceive that the buildings assume an exceedingly imposing aspect. They are for the most part covered with a composition to resemble stone, and being in some instances painted, they have a light and cheerful appearance. At the foot of Regent Street is the short broad thoroughfare of Waterloo Place, lined with noble mansions, and leading southwards to St James's Park. Here stands the elegant column dedicated to the late Duke of York. From this point, for about a mile in a northerly direction, is the line of Waterloo Place and Regent Street, forming the handsomest street in London. At a point a short way up, we cross Piccadilly, and enter a curve in the thoroughfare, called the Quadrant: the fronts of the houses here are lined with arcades and pillars, so as to form a covered path on each side of the way. At the corners of the Quadrant, and also in Upper Regent Street, there are now some of the most splendid shops in London, several being decorated in a style of extraordinary magnificence. Regent Street, during the busy season in May and June, and during the day from one till four o'clock, exhibits an extraordinary concourse of fashionable vehicles, gentlemen on horseback, and foot passengers; while groups of carriages are drawn up at the doors of the more elegant shops. Towards its upper extremity, Regent Street crosses Oxford Street; and the mass of streets west from it, throughout its entire length, may be said to include the residences of the greater part of the nobility and other high classes of London. In this quarter are Old and New Bond Streets, Hanover, Berkeley, Grosvenor, Cavendish, and Portman Squares (the two latter north of Oxford Street); and in connexion with these squares there are long quiet streets, lined with houses suited for an affluent order of inhabitants. In and north from Oxford Street, and in its eastern continuation, Holborn, there are few public buildings deserving particular attention: the only institution of general importance north from Holborn is the

British Museum.—This is a great national establishment (the property of the public), containing a vast collection of books, prints, antiquities, and natural curiosities. It occupies a most extensive suite of buildings in Great Russel Street, Bloomsbury. Since its commencement in 1755, the collection has been prodigiously increased by gifts, bequests, and purchases, and now it is perhaps the largest of the kind in the world. The library is open only to persons who proceed thither for study or for consulting authorities, no general inspection by strangers being allowed. The portions open to ordinary visiters consist of an extensive series of large apartments on the ground and upper floors, each devoted to the exhibition of a distinct class of objects. Among others are the following:—Room 1, Terracottas; 2, 3, 4, and 6, Greek and Roman sculptures; 5, Roman sepulchral antiquities, and Sir T. Lawrence's collection of casts; 7, British antiquities; 8, Egyptian antiquities; 9, Portland Vase; and several saloons containing the Elgin Marbles, and massive Egyptian antiquities. The rooms containing objects in natural history and artificial curiosities, are handsomely fitted up with glass-cases on the walls and counters. The most deeply interesting collection in the whole establishment is that of Egyptian antiquities—consisting of smaller objects, including mummies in cases, on the upper floor, and huge remains in stone in the saloons below. Days may be spent in examining this vast assemblage of objects; and to assist in the inspection, catalogues for the entire museum may be purchased at the door.

The British Museum is open from October to April on Mondays, Wednesdays, and Fridays, and the whole of Easter and Whitsun weeks, except Saturday, from 10 till 4; from May to September, 10 till 7. It is closed on the first week in January, May, and September, and on Christmas-day, Good Friday, and Ash Wednesday No fee whatever is payable.

PLACES OF INTEREST NEAR LONDON.

The chief places of an interesting kind near London are, Woolwich, Greenwich, and Deptford, already mentioned, on the east; Dulwich on the south; and Chelsea, Richmond, Hampton Court, and Windsor, on the south-west.

Dulwich is a pretty village, lying within the extended suburbs of the metropolis, in Surrey, in a southerly direction from London Bridge. Here Edward Alleyn, or Allen, a distinguished actor in the reign of James I., founded and endowed an hospital or college, for the residence and support of poor persons, under certain limitations. The founder bequeathed some pictures to the institution, and the collection was vastly increased by the addition of a large number bequeathed in 1810, by Sir Francis Bourgeois. A splendid new gallery was opened in 1817; and this now forms a most attractive sight to all who delight in the fine arts. The gallery is open every forenoon, except on Fridays and Sundays. Tickets to view it may be had *gratis* from Colnaghi, Pall Mall, and other printsellers.

Chelsea.—Chelsea is a village on the west of the metropolis. It is only eminent for its hospital for retired invalid soldiers, an institution similar in all respects to the asylum for decayed sailors at Greenwich.

The hospital, which is situated on a flat stretch of ground between the village and the Thames, and was planned by Sir Christopher Wren, consists chiefly of one large edifice of red brick, several storeys in height, forming a centre and two wings, or three sides of a square, with the open side towards the bank of the Thames. On the north, in which is the main entrance, the style of architecture is simple, being ornamented with only a plain portico. The inner part of the centre building is more decorated, there being here a piazza of good proportions, forming a sheltered walk for the veteran inmates. In the centre of the open square interval stands a statue of Charles II., in whose time the hospital took its rise. The only parts of the house considered worthy to be shown to strangers are the chapel and old dining-hall, both in the central building. The chapel is neat and plain in appearance, the rows of benches being furnished with prayer-books and hassocks, and the floor being paved with marble in alternate black and white squares. Above the communion-table there is a painting of the Ascension, containing some good figures. The dining-hall is equally spacious, but is now disused as a refectory, though the tables stand ready covered for use.

The usual number of in-pensioners is about 476, and of out-pensioners not fewer than 80,000, who reside in all parts of the United Kingdom. The former are provided with all necessaries, and the latter have each pensions varying from £7, 12s. to £54, 15s. yearly. The inmates wear an antique garb of red cloth, in which they may be seen loitering about the village.

Near Sloane Square, Chelsea, is situated a large building forming the *Royal Military Asylum*, for the support and education of about 500 poor children, whose parents were non-commissioned officers and privates in the army. Each regiment contributes annually one day's pay, to aid in supporting the institution.

Richmond.—Richmond is a village situated on the south bank of the Thames, at about nine miles by land from Hyde Park Corner, and sixteen miles by following the windings of the river. The most pleasant mode of conveyance to it is by one of the small steam-boats from Hungerford Stairs, for then an opportunity is afforded of seeing numerous beautiful and interesting spots on both banks of the river. In passing upwards, we have on our right, Chelsea; Fulham, at which is the residence of the Bishop of London; and the pretty village of Chiswick; on the left, Battersea, Putney, Mortlake, the royal residence of Kew and its gardens, next which is Richmond. The village of Richmond stands on a slope overhanging the river, and possesses no point of attraction. Opposite the village is a stone bridge crossing the Thames, which is here very much narrowed, and further than this steam-vessels do not go. Richmond is only interesting from its exceedingly beautiful environs. South from the village, a pretty steep bank ascends to the green and bushy eminence called Richmond Hill, and from the walks on its prominent front, a view is obtained of the beautifully wooded country on the opposite side of the river. Among numerous villas, ornamental grounds, and other attractive objects, may be seen Twickenham, situated in the immediate vicinity, on the west bank of the Thames. In the house for which the present was erected as a substitute, lived Pope, the poet, and his body is entombed in the church. Close by Twickenham is Strawberry Hill, once the seat of Horace Walpole, and now belonging to Lord Waldegrave. Moving onwards along the brow of the eminence, and passing the well-known hotel called the Star and Garter, we enter the famous Richmond Park, which is eight miles in circumference, and ornamented with many magnificent large trees. These extensive grounds were at one time connected with a royal palace, but there is now no such edifice—one or two hunting

excepted, and these are not used by royalty; but
s still a domain of the crown, and freely open
c. From Richmond, it is but a short ex-

Court.—*Hampton* is about thirteen miles

from Lon… by … and … four by water, on account of … of … mes. The village is m… ct of attraction is H… open daily, grati… T… in enclosed garden… n … rrectly the north… … Thames, was originally built by Cardina… …y, and a portion of the structure which he rear… is still extant in the northern quadrangle. Here was th… scene of the humiliation and forfeiture of that favourit… of Henry VIII., who at this place often held his cour… and made it the scene of his Christmas festivities; he… Edward VI. was born; here were held the masque… mummeries, and tournaments of Philip and Mary, a… Elizabeth; here James I. held his court and famou… meeting of controversialists; here Charles I. was i… mured as a state prisoner, and took leave of his childr… here was ebrated the marriage of Cromwell's daught… and Lord …alconberg; here Charles II. had occasio… ally his impure residence; here lived William and Ma… after the revolution of 1688; and here, till the reign George II., royal courts were sometimes held. T… palace, in external appearance, is a lofty and magn… cent structure of red brick, ornamented with pale fr… stone cornices and edgings to the doors and windo… Altogether, the edifice consists of three quadrangl… Entering by the grand staircase, the visiter is conduc… through a suite of lofty and large apartments, furnish… in an old-fashioned style, and decorated with pictu… The guard-room, which is first in order, contains, … sides a series of English admirals by Kneller and D… a variety of ancient warlike instruments. In the … apartment are seen portraits of various beauties of … court of England, painted by Kneller, who has here … picted several lovely countenances, though a sam… runs through the whole, and none are so striking … leave any impression. In the third room is seen w… is generally esteemed as the finest painting in the h… —a portrait of Charles I. on horseback, by Vandyk… and which ought to be seen, in order to have a just … preciation of that great master's admirable style. Th… is also an excellent painting of Bandinelli in his ste… by Corregio. The third room, or audience-chamber, … also some good pictures; among others, a paintin… the family of Louis Cornaro, a person celebrated … his extraordinary temperance. The picture, whic… from an original, by Titian, shows Cornaro and the … generations of descendants, who appear in the ac… adoration at a shrine. There are likewise portrait… Titian and his uncle, done by Titian himself, an… spirited battle piece by Julio Romano.

The fourth apartment, or queen's drawing-room, … enriched with an exceedingly fine painting of Charles I. a whole length, by Vandyke, esteemed the best li… ness we have of that monarch. There is a well kno… wn and most beautiful print from it by Sir Robert Strang… the prince of English line engravers. In the … room, or state bed-chamber, the visiter will see a be… tiful portrait of Anne Hyde, daughter of Hyde, Earl o… Clarendon, and mother of the successive queens, M… and Anne. The queen's dressing-room and writi… closet, and Queen Mary's state bed-chamber, wh… follow, contain many fine pictures, by Holbein, Sir Pe… Lely, Sebastian del Piombo, Louis da Vinci, Alb… Durer, and others. After having traversed these stat… and silent halls, the visiter is led out through a lo… dreary, ill-lighted apartment, the walls of which … ornamented with what at first sight he may suppo… very wretched daubs, but which prove to be some … the famous cartoons of Raphael—productions wh… praises have resounded over the whole civilised wo…

On the opposite side of the public road from th… palace gardens, is *Bushy Park*, a royal domain, emb… lished with an avenue of splendid horse-chestnut tre… and open to the inspection of the public.

Windsor is situated in the county of Berks, at th… distance of 22 miles west from London by the ro… through Brentford, but may now be reached in l… than an hour by the Great Western Railway fr…

trangers residing for a few days only in the metropolis; nd to accommodate this numerous transient popula- ion, there is a vast number of lodging and board- ng-houses, hotels, and other places of accommodation. few years ago, the metropolis possessed 207 hotels, nns, and taverns; 3780 public-houses of licensed vic- uallers; and 130 beer-shops. The fashionable hotels re situated west of Charing Cross—as, for instance, Mivart's, in Brook Street, Grosvenor Square, and Davis treet, Berkeley Square; Warren's, in Regent Street; Preston's, St James's Street; Lemmer's, George Street, Hanover Square; the Clarendon, in New Bond Street; he Burlington, in Old Burlington Street; Wright's, in Dover Street, Piccadilly; Morley's, Trafalgar Square, c. At all the fashionable and family hotels in the west end" the charges are very high, and the majo- ity of the respectable middle classes lodge at hotels nd boarding-houses east of the Strand. In and about Covent Garden there are several highly respectable otels for single gentlemen; among others, the Caven- ish, the New and Old Hummums, and the Tavistock. Another class of hotels or inns are those to which tage-coaches run, and which are resorted to by com- mercial and other gentlemen; as, for example, the Golden Cross, near Charing Cross; the Bolt-in-Tun, Fleet Street; the White Horse, Fetter Lane; the Bell nd Crown, Holborn; the Saracen's Head, Snow Hill; he Swan with two Necks, Lad Lane; the Spread Eagle, Gracechurch Street; the Belle Sauvage, Lud- gate Hill; and the Bull-in-Mouth, opposite the General ost-Office, in St Martin le Grand. To these we may dd three large inn and tavern establishments at the outskirts of the town—the Angel at Islington (northern nvirons); the Elephant and Castle, Newington Cause- way; and the Horns, Kennington Common (both outhern environs).

In and about the city there are various large and espectable taverns, at each of which gentlemen are ngaged in a comfortable manner; but they are practi- ally designed for accommodating dinner and festive arties. Among these may be mentioned, the London nd City of London Taverns, both in Bishopsgate treet; the Albion, in Aldersgate Street; the Crown nd Anchor, Strand; the Thatched House, St James's treet; Freemasons' Tavern, Lincoln's Inn Fields; the British Coffee-house and Tavern, Cockspur Street; and he London Coffee-house and Tavern, Ludgate Hill. There is, besides, a class of coffee-houses or taverns, hose chief business is supplying small refreshments nd dinners, also the accommodation of newspapers, nd which are resorted to only by gentlemen. Each of hese has a distinct character. Garraway's and Lloyd's, t the Royal Exchange, are associated with marine in- elligence, stockjobbing, and auctions; and in Corn- ill, opposite, the North and South American Coffee- ouse supplies American newspapers, and here also re to be seen the captains of vessels who are prepar- ng to sail to different ports in the western continent nd islands. At Jerusalem and East India Coffee- ouse, Cowper's Court, Cornhill, information relating o East India shipping and captains may be obtained rom the waiter at the bar. The Chapter Coffee-house, n Paternoster Row, is the resort chiefly of literary nd clerical gentlemen, and is a place of grave aspect. 'eel's Coffee-house, in Fleet Street, is celebrated for eeping files of newspapers, which may be consulted; ut this accommodation, as respects London papers, ay also be had at the Chapter. A small fee is payable o the waiter for examining files at these houses.

The next class of houses of this nature are chop or ining-houses, but also doing the business of taverns, and esorted to only by gentlemen—as Dolly's Chop-house, n Paternoster Row; Dr Johnson's Tavern, in Bolt ourt (a few doors from Farringdon Street), in Fleet treet; also the Mitre, in Fleet Street. Latterly, there as sprung up a very numerous class of coffee-houses, f a much more humble though perhaps more useful ature, at which cups of ready-made coffee and tea, with ices of dressed meat, may be obtained at very moderate

prices. In most of these establishments the charge is (or was lately) three halfpence for half a pint of coffee; half a pint of tea, twopence; two slices of bread buttered, twopence; eggs and meat proportionably cheap. While these establishments are chiefly resorted to for breakfast or for refreshment in the evening, there is a far more numerous class of eating-houses, resorted to for dinners by the shopkeeping and working classes. We have only room to mention a few great houses—Morton's Excise Dining-rooms, in Bishopsgate Street, where about nine hundred dine daily; the famous Boiled-Beef House, Old Bailey (near Ludgate Hill); the Chancery Dining-rooms, in Chancery Lane; and Hancock's Dining-rooms, in Rupert Street (a short distance from the head of Haymarket).* An excellent dinner may be had at any of these houses for about 1s. 3d., or even less.

Throughout the town there are now many splendid dram-shops called gin-palaces; but of these haunts of intemperance nothing need be said.

PUBLIC RECREATION AND AMUSEMENT.

The chief places of resort during the day, for the recreation and amusement of strangers, may be summed up as follows:—The Parks; the Zoological Gardens in the Regent's Park; another Zoological Garden in Surrey; the British Museum; the National Gallery; the Exhibitions of the Royal Academy, of the Society of British Artists, and of the Society of Painters in Water Colours; the Diorama and the Colosseum, Regent's Park; Sir John Soane's Museum in Lincoln's Inn Fields, open Thursday and Friday during April, May, and June, from 10 till 4 (tickets must be previously applied for); the exhibition of interesting objects of science and arts, Adelaide Gallery, Lowther Arcade, Strand; a similar exhibition at the Polytechnic Institution, Regent Street. Several noblemen permit inspection of their picture-galleries: it is admitted that the most extensive and valuable is that of the Duke of Sutherland, Cleveland House, St James's Place. Besides the regular places of recreation, there are always temporary exhibitions of things interesting to strangers, at the Egyptian Hall, Piccadilly, places in the Strand, &c. Public meetings frequently occur at Exeter Hall, Strand.

The places of evening entertainment are various; and first may be mentioned the theatres, of which there are upwards of twenty in the metropolis. The principal are the Queen's Theatre, or Italian Opera House, foot of Haymarket; Drury Lane and Covent Garden Theatres, being the two licensed for the legitimate drama, and open in the winter season; the Haymarket Theatre, for legitimate drama also, but only open in summer; the Adelphi, in the Strand; the Surrey Theatre, Blackfriars Road; and Astley's Royal Amphitheatre, Westminster Bridge. Latterly, Drury Lane Theatre has abandoned theatricals, and is now opened for cheap evening concerts. Vauxhall Gardens, long a place of evening resort, have been finally closed, having latterly proved ruinous to its lessees. Nearly all the theatres are in a languishing condition, and a large and respectable part of the community now prefer attending Lyceums and Literary Institutions, which combine occasional lectures, a reading-room, and library. One of these establishments is in Aldersgate Street, in the city, and another is in Leicester Square, for the western part of the town. Strangers are introduced by members.

CIVIC GOVERNMENT, POLICE, &c.

With respect to civic jurisdiction, the city of London is governed in a peculiar manner. In virtue of ancient charters and privileges, the city is a species of independent community, governed by its own laws and functionaries. While all other boroughs have been reformed in their constitution, London has been suffered to remain, as yet, in the enjoyment of all its old usages. The city is civilly divided into twenty-five wards, each of which has an alderman who is chosen for life, and acts as magistrate within his division. The freemen of the various wards elect representatives annually to the common-council, to the number of 236 members. The lord-mayor, aldermen, and common-council, compose the legislative body for the city. The lord-mayor is chosen by a numerous and respectable body of men, called *the livery*, or liverymen; these are certain qualified members of trading corporations, who, except as appointing the lord-mayor, sheriffs, members of parliament, &c., do not actively interfere in city management. The revenue of the city corporation, which is derived from sundry dues, rents, interest of bequests, fines for leases, &c., amounted in 1832 to £186,923, 10s. 10d., and the expenditure was nearly the same. The magistracy, police, and prisons, cost about forty thousand pounds annually, but this is exclusive of large sums disbursed by the court of aldermen. The trading companies at present existing are eighty-nine in number, eight which formerly existed being now extinct.

The lord-mayor is elected annually, on the 29th of September, from among the body of aldermen. The livery send a list of two candidates to the court of aldermen, and one of these, generally the senior member, is chosen by them. He enters office, with much pomp, on the 9th of November, which is hence called Lord Mayor's Day. The advocate and legal adviser of the corporation is an official with the title of recorder. The lord-mayor and corporation exercise a jurisdiction over Southwark and other precincts. Westminster, which is not connected in civic matters with London proper, is under the jurisdiction of a high-bailiff. The county of Middlesex is represented in parliament by two members, chosen by the freeholders; the city of London by four, chosen by the liverymen; Westminster, two, chosen by the rate-paying householders; Marylebone, two; Tower Hamlets (eastern precincts), two; Finsbury (northern precincts), two; Southwark, two; and Lambeth, two. Thus the metropolis, with its immediate neighbourhood, including about two millions of souls, returns eighteen members to the House of Commons, without reckoning those who are sent by the county of Surrey.

Police.—In 1829 the old mode of watching was abolished, in all parts of the metropolis except the city, and a new police force established by act of Parliament. This has been a highly successful and beneficial improvement. The new police is under the management of two commissioners, who are in direct communication with the secretary of state for the home department; under the commissioners are 17 superintendants, 70 inspectors, 342 sergeants, and 2968 constables. The district under their care includes the whole metropolis and environs, with the exception of the city. The constables wear a blue uniform, and may be seen on the street on duty at all times of the day and night. The expense of this most efficient police force in 1837 was £209,754, 11s. 11d. Three-fourths of the expenses are paid out of the parish rates, but limited to an assessment of 8d. per pound on the rental; the remainder is contributed from the public purse. Latterly, the lord-mayor and aldermen have established a police force for the city on the model of that above mentioned. It consists of 1 superintendant, 12 inspectors, 50 sergeants, and 638 constables. In addition to these two police bodies, there are nine police offices, in Bow Street, Queen Square, Hatton Garden, &c., each with a small body of active officers; and there is likewise a river police, consisting of 22 surveyors and 70 constables. In 1836 a horse patrol was added to the Bow Street establishment, consisting of 4 inspectors and 66 patrols, whose sphere of action is the less frequented roads around the metropolis. With all these means of preserving the peace and preventing crime, the metropolis is now one of the most orderly towns in the world; and provided strangers do not seek the haunts of vice, but pursue their way steadily, they run no risk of molestation.

Fires.—In 1833, by an arrangement among the fire assurance offices, there was established a regular fire-suppression police, consisting of a superintendant, 5

ned in prime order. The finest oysters are called
er, and are sold in small quantities to those who
to eat them on the spot.

vent Garden market (connected by Southampton
t with the Strand), is the great vegetable-market
he metropolis. The spot, which is exceedingly
al to the metropolis, was once the garden to the
and convent of Westminster. At the suppression
e religious houses in Henry VIII.'s reign, it de-
ed to the crown. Edward VI. gave it to the Duke
merset; on his attainder it was granted to the
of Bedford, in which family it has remained.
a design of Inigo Jones, it was intended to have
rounded the space with a piazza, but the north and
sides only were completed. The west side is occu-
by the parish church of St Paul's, celebrated for
xpansive roof, sustained by the exterior walls.
election of members to serve in Parliament for
ity of Westminster is held in front of this church;
places for receiving the votes are temporary build-
. The south side is occupied by a row of brick
dings. Within this square, fruit and vegetables of
best quality are exposed for sale. A large paved
, surrounding the interior square, is occupied by
market gardeners, who, as early as four or five in
morning, have carted the produce of their grounds,
wait to dispose of it to greengrocers, or dealers in
and vegetables, residing in different parts of Lon-
any remainder is disposed of to persons who have
dings in the market, and they retail it to such in-
duals as choose to attend to purchase in smaller
tities. Within this paved space, rows of shops are
eniently and elegantly constructed for the display
e choicest fruits and vegetables of the season: the
ductions of the forcing-house, and the results of
ticultural perfection, appear in all their beauty.
re are also conservatories, in which every splen-
of the garden may be obtained, from the rare
ic to the simplest native flower.

he cultivation of vegetables in the open ground
in ten miles surrounding London, has arrived at
t perfection; and so certain is the demand, that
whole is regularly conveyed by land or water to
metropolis, so that persons residing in the neigh-
hood of those well-arranged gardens have no sup-
of vegetables but from their own resources. The
al produce of the garden grounds cultivated to
ly the London markets with fruit and vegetables,
unts to £1,045,000.

he greater part of the corn used for bread and
r purposes in the metropolis, is sold by corn-factors
Mark Lane; but much also arrives in the form of
. In 1838, the consumption of wheat was 525,407
ters, and of flour 515,005 sacks. The annual con-
ption of butter is 11,000 tons; of cheese, 13,000 tons.
quantity of poultry annually consumed amounts to
000, independent of game. The annual consump-
of milk is said to amount to £646,000.

1837, it was found that the malt used in brewing
ondon amounted to 5,692,360 bushels; and that
were sent out of stock for consumption 1,270,231
ns of foreign spirits, 5,354,383 gallons of British
ts, 3,636,362 lbs. of tobacco, and 1,181,723 lbs. of
. A certain portion of these supplies would doubt-
be drawn by families in the country.

he water used in the metropolis is chiefly supplied
he Thames, and an artificial canal called the New
r. The water is naturally good and soft, but far
pure, notwithstanding the filtration to which it is
ected. The spots at which it is raised from the
nes, are within the bounds of the metropolis, at
reat distance from the mouths of common sewers;
forms one of a number of evils to which the in-
ants submit with a remarkable degree of indiffe-
e. The water supplied by the New River Company
ore pure, but is charged at a high rate. Eight
panies are concerned in the supply of water, and the
quantity distributed daily amounts to 20,829,555
rial gallons.

The metropolis is supplied with coal principally from the neighbourhood of Newcastle, and partly from Wales, and certain inland counties; the import from the latter being by canals. Newcastle coal is preferred. It arrives in vessels devoted exclusively to the trade, and though the charge for freight is small, so many and so excessive are the duties and profits affecting the article, that a ton of coal, which can be purchased at Newcastle for about 5s., costs, to a consumer in London, upwards of 30s. The quantity of coal imported in 1838 was 2,531,035 tons.

It has been calculated that the money spent annually in London, on articles of consumption and luxury, amounts to £70,000,000; being more than a third of what is spent for such purposes in the whole united kingdom.

MISCELLANEOUS INFORMATION.

The metropolis contains 500 places of public worship, and attached to these there are not fewer than 600 clergymen. Exclusive of the places of worship of the Jews and various small sects, the number of dissenting chapels in London was lately 200, as follows:—Chapels of Independents, 66; Wesleyan Methodists, 36; Baptists, 32; Calvinistic Methodists, 30; Presbyterians, 16; Roman Catholics, 14; Quakers, 6; total, 200. The chapels of dissenters are principally in the eastern suburbs of London. The largest of the Roman Catholic chapels is in this quarter, near Finsbury Square. The original Tabernacle, erected by Whitfield, is in Tottenham Court Road. The chapel of the late Rev. Rowland Hill, which can contain 5000 persons, is in Blackfriars Road. Each of the established churches is surrounded with a small burying-ground, and many churches have vaults beneath for sepulture. The odious practice of burying in these confined situations is now gradually going out of use; and many interments take place in new cemeteries in the environs. These cemeteries, which are respectively the property of joint-stock companies, are laid out in a neat manner, and are well worthy of a visit from strangers. The oldest established is that at Kensal Green, in the north-western environs, on the road to Harrow. Others are at Norwood in the south, Highgate in the north, and Stoke Newington in the north-eastern environs, and several are in course of establishment. The annual number of deaths in London is about 50,000.

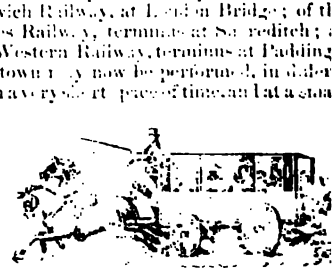
London abounds in charitable institutions of various kinds. The charities connected with the corporation of London are Christ's Hospital, for boarding and educating youth, already mentioned; Bethlehem Hospital, for insane patients; St Thomas's Hospital, Southwark, for poor patients diseased and hurt; and Bartholomew's Hospital, West Smithfield, for the same purpose. The trades' companies likewise support a number of beneficiary institutions. The following hospitals have been founded and are supported by private benevolence:—Guy's Hospital, Southwark; London Hospital, Whitechapel Road; Westminster Hospital; St George's Hospital, Hyde Park Corner; Middlesex Hospital, Charles Street, Oxford Street; the University College Hospital; St Luke's Hospital, City Road; Small-Pox Hospital, and London Fever Hospital, St Pancras; and Lock Hospital, Pimlico. Besides these, there are four lying-in hospitals; a floating hospital; various ophthalmic hospitals, and numerous dispensaries and infirmaries for particular diseases. Institutions for relief of indigent persons, deaf and dumb asylums, blind asylums, and Orphan asylums, are far too numerous to be specified.

Under the orders of the Poor-Law Commissioners, the metropolis is divided into 20 districts or unions, which, in 1838, absorbed an expenditure on the poor of £401,952. By the active management of the guardians, the annual expenditure is much less than it was under the old wasteful parochial system, while the poor are allowed to be now better employed and more comfortable. Begging is followed as a profession in the metropolis, and there are many persons who subsist by tricks of imposture; nevertheless, although, as has been alleged, there are 15,000 regular beggars of various kinds, it is certain that fewer signs of absolute want and misery meet the eye in London than in other towns. As an instance of the growth of provident habits in the humbler orders, it has been stated that in 1837, about 97,000 persons resident in the metropolis had accounts at the different Savings' Banks, and the sum standing at the credit of their accounts was about £2,450,000.

The principal educational establishments in the metropolis are the University College (northern branch), King's College, Strand; and University College, Somerset House. There are also some public schools, one of which is that of Westminster, which are more interesting from their antiquity than their usefulness. The National Society for the Education of the Poor, and the British and Foreign School Society, have each large model schools in the metropolis—that of the British and Foreign, Borough Road, is open to inspection for its great extent and its well-conducted routine of elementary instruction. The metropolis is the seat of from forty to fifty societies connected with science, literature, and the arts, which may be considered of national importance. Among these are the Royal Society, Society of Antiquaries, Linnæan Society, Zoological Society, Society for Diffusion of Useful Knowledge, Horticultural Society, Royal Geographical Society, Sion College, &c. For a notice of the meetings of these societies, we refer to the *Athenæum*, a literary periodical.

Lately there were eleven newspapers published in London—six in the morning and five in the evening. There were also twenty-four weekly newspapers, thirty-eight which appeared at other intervals, and there were besides about fifty small literary publications issued weekly, the greater part of which are of improving tendency. Of larger periodicals belonging to the metropolis, there are altogether about one hundred and twenty, which are issued at quarterly or other intervals, but chiefly monthly. It has been calculated that the number of such works sold on the first of every month (locally termed magazine day) in London amounts to half a million of copies, occasioning an expenditure to the public of £25,000.

In recent times, great improvements have taken place in the vehicular conveyance of the metropolis and its neighbourhood. By the trains of the London and Birmingham Railway, terminus at Euston Square; the South-Western Railway, terminus at Nine Elms; the Croydon Railway, terminus at Bricklayers' Arms; the Greenwich Railway, at London Bridge; of the Eastern Counties Railway, terminus at Shoreditch; and the Great Western Railway, terminus at Paddington, the journey out of town may now be performed, in different directions, in a very short space of time, and at a small



Within the metropolis, hackney coaches, cabriolets, cabs, and omnibuses, are exceedingly plentiful. The fare charged for hackney coaches is 1s. per mile, and for cabs 6d. per mile. The fare by omnibus is 6d. for the ride, whether short or long. These vehicles, of which there are now about 700 in constant operation, run from all parts of the environs to the centre of London, and also crosswise in different directions, and as their drivers are most active in taking and setting down passengers, they may be said to be one of the greatest of modern improvements in the metropolis.

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ERS'S

R THE PEOPLE.

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SCOTLAND.

an, on the north by the Northern Ocean, on the
t by the Atlantic, and on the south by England.
greatest length is 284, and the greatest breadth
miles. The entire surface, including the islands,
tains 30,000 square miles, or nearly 20,000,000 of
glish statute acres.

o the north of a southward curving line, stretching
ween Glasgow and Aberdeen, the country is more
ntainous than elsewhere, and therefore bears the
eral appellation of the *Highlands*. This is a district
of romantic scenery—savage precipitous mous-
s, lakes, rushing streams, and wild ranging man-
woods. Its population, numbering about 400,000,
a sixth of the entire population of the country,
f Celtic (and in a less degree Scandinavian) de-
nt, and exhibits many peculiar features, in language,
s, and manners, which are, however, rapidly be-
ing obliterated. The remainder of the country is
ned the *Lowlands*, as containing less ground of
levated and irregular character, though here also
re are several considerable ranges of mountains.
inhabitants of this district, who are more pecu-
ly entitled to be considered as *the Scotch*, are, like
English, a Teutonic people, but with probably a
ture of Celtic blood; and their language may be
sidered as only a variety of English.

onnected with Scotland are two large groups of
nds; namely, the *Northern Islands*, including the
ney and Shetland Isles, situated in the Northern
an; and the *Hebrides* or *Western Islands*, situated
he Atlantic Ocean.

cotland and its islands contain thirty-three coun-
, which may be thus classed:—*Border Counties* (so
ed because forming the border adjacent to England)
erwick, Roxburgh, and Dumfries. *South-Western*
nties—Kirkcudbright and Wigton. *Western Coun-*
—Ayr, Lanark, Renfrew, Bute, and Argyll. *Cen-*
Counties—Peebles, Selkirk, Haddington, Edinburgh,
lithgow, Stirling, Dumbarton, Clackmannan, Kin-
s, Fife, and Perth. *North-Eastern Counties*—Forfar
Angus), Kincardine (or the Mearns), Aberdeen,
ff, Elgin (or Moray), and Nairn. *Northern Coun-*
—Inverness, Ross, Cromarty, Sutherland, Caithness,
Orkney.

or ecclesiastical purposes, the country is divided
parishes (which are also civil divisions), presby-
es, and synods. (See CONSTITUTION AND RESOURCES
THE BRITISH EMPIRE.)

he principal rivers are Tweed, Annan, Nith, Dee
rkcudbright), Ayr, Clyde, Beauly, Ness, Findhorn,
y, Deveron, Ythan, Don, Dee (Aberdeenshire), Tay,
th, Carron, Leith, and Tyne. The Tay is the most
idus, and the Spey the most rapid. Scarcely any of
e rivers are navigable to a considerable distance
n the sea.

he mountains of Scotland are generally in groups
anges. The Highlands may be considered as com-

great cluster of hills; but those bordering on the Lowlands, and extending between Stirlingshire and Aberdeenshire, are more particularly distinguished as the *Grampian Mountains*. The other principal ranges are the *Sidlaws* in Forfarshire; the *Campsie Hills* in Stirlingshire; the *Pentlands* in Edinburghshire; the *Lammermoors*, extending between Berwick and Haddingtonshires; the *Cheviot Hills* on the Border; and a great range, of no general name, extending throughout the counties of Selkirk, Peebles, Dumfries, Lanark, Ayr, and Kirkcudbright. The most noted of the Highland mountains are Ben Nevis (4370 feet, being the highest in the United Kingdom), Ben Mac Dhui (4327), Cairngorm (4095), Ben More (3870), Ben Wyvis (3720), and Ben Lomond (3262). The highest of the Pentland range is Carnethy (1880). Amongst the southern hills, few exceed 2500 feet.

GEOLOGICAL STRUCTURE.—SOIL.—CLIMATE.

In the Highlands, the rocks are generally of the primary kind—granite, gneiss, mica-slate, &c.; the granite generally rising into lofty peaks, on which, in many instances, gneiss and other non-fossiliferous rocks abut or rest. In the Lowlands, the rocks are generally of the transition kind (grawacke, &c.), covered in many parts with coal-measures, trap, and red sandstone. Rocks superior to the red sandstone occur only in a few detached places, and in very small quantity.

The coal-field of Scotland extends, with slight interruptions, across the central part of Scotland, from the eastern extremity of Fife to Girvan in Ayrshire; the principal beds being near Dysart and Alloa, in the vale of the Esk near Edinburgh, near the line of the Forth and Clyde Canal, at Paisley in Renfrewshire, and at Dalry, Kilmarnock, and Girvan, in Ayrshire. The Scottish coal is chiefly of a hard and lumpy kind, calculated to burn briskly, and therefore well adapted for manufacturing as well as for domestic purposes.

Granite is dug in the neighbourhood of Aberdeen, and at Kirkcudbright, for building purposes. The city of Aberdeen itself is chiefly constructed of it; and great quantities of it are transported to London, Liverpool, and other places, to be employed in building bridges, docks, and other structures in which unusual durability is required. Slates of excellent quality for roofing are quarried at Easdale and Ballahulish in Argyllshire, and in other places. Sandstone slabs for paving are quarried in Caithness, and at Arbroath in Forfarshire. A fine kind of sandstone is dug in many places, and is the primary cause of the architectural elegance of many of the public and private buildings in the principal towns. Owing to the abundance of both sandstone and trap, both of which are excellently adapted for building, little brick is used in Scotland.

The chief metals worked in Scotland are lead and iron. Lead is extensively wrought in the hills near the junction of Lanark and Dumfries shires, and silver was formerly obtained in considerable quantities in the same district. Iron has latterly been worked on a great scale in the northern district of Lanarkshire, and in the counties of Renfrew and Ayr. Agates, topazes, cornelians, and some other precious stones, are found in the highlands of Aberdeenshire. Mineral waters, useful for various maladies, exist at Dunse, Moffat, Innerleithen, Airthrey, Bridge of Earn, Peterhead, and Strathpeffer.

The soil of Scotland is of an extremely diversified character. On the comparatively level tracts, much is composed of loam resting on the great clay bed, or diluvium, or of alluvial clay washed down from the hills. Much level as well as hilly ground is also covered by peat bog, the dissolved forests of ancient times. On the trap hills, a light and useful soil, composed of the material below, is generally found. A considerable quantity of the arable soil throughout, being composed of reclaimed bog, contains a peaty material. Out of the thirty thousand square miles comprehended in Scotland, about thirteen thousand are totally incapable of improvement, nine thousand are wastes believed to be capable of improvement, and the remainder are pretty equal between arable and pasture land.

The climate, as compared with that of Er cold, cloudy, and wet; yet the temperature is to such great extremes as that of either Er France, seldom falling below 25° Fahrenheit, above 65°, the annual average being from 4 The summer is uncertain, and often comprehe consecutive weeks of ungenial weather; bu other hand, the winters are rarely severe, include many agreeable days and even wee backwardness of spring is perhaps the worst the meteorological character of the country.

ANIMAL AND VEGETABLE PRODUCTIONS.—AGRICI

The country, as already mentioned, was covered in great part by wood; and this feat lieved to have been expressed in its ancient na donia (*choille dun*, Gaelic, a wooded hilly coun natural wood has been allowed in the course go into decay, in all except a few remote di which we may particularise the high count junction of Aberdeen, Banff, Moray, and shires. In the last century, Scotland had becon bare of wood, the only patches being around ge seats. Within the last fifty years, this state has been greatly changed. Extensive plantat been formed in most districts, as a protecti cultivated lands. Those of the Duke of Athole shire are remarkable, above all, for the vast which they occupy. Scottish plantations consi of larch and fir; but the country also prod ash, and elm, in great abundance. It is calcu about a million of acres in Scotland are n wood.

Scotland formerly abounded in wild anima cularly the wild-boar, the wild-ox, and the w wild-boar has been for many ages extinct; wolf has been so since the latter part of the se century. Of the primitive white wild cattle of try, there is now only a specimen herd, preser curiosity in the parks near Hamilton Palace. prey, the eagle, falcon, and owl, are still foun Highlands and Western Islands, where also game birds are abundant. Aquatic birds h more precipitous shores in vast numbers. I rabbits every where abound, and foxes are n The rivers of Scotland produce salmon and t herrings, haddocks, cod, and flounders, exist abundance in the neighbouring seas.

Husbandry was in a very backward state in till the middle of the eighteenth century. T lands produced herds of the native small bla in the low countries, the higher grounds were as now, by flocks of sheep; but there was litt land, and that little was ill cultivated and comp unproductive. Since then, under the care o patriotic and enlightened individuals, Scotlan said to have been one great experimental far advancement of husbandry in all its forms. ing of turnips for the winter support of cattle in itself a most remarkable improvement. rotation of crops has been studied, and has tended with the best effects. Old, cumbrous, pensive modes of tillage have been banished, light plough and cart substituted in their place ing has improved not only the soil but the Lime, and latterly bone manure, have been ex introduced. The productiveness of the soil h quently increased in an immense ratio. Oats plant, calculated for most soils and climates, i chief grain raised in Scotland, and its meal i principal food of the peasantry, of working general, and of the children of all classes of munity: it is said to cover 1,260,000 acres, or of the whole in cultivation. Barley, which conspicuous article in the food of the comme and is also used in distillation, occupies 280,(Wheat is believed to occupy only about 140,0

of what is honourable in the doings of those who before them. A strong sense of religion is a com- ons feature in the Scottish national character; however, from all regard to external and what r to them unimportant things connected with it. is no country where a more decent attention is the Sabbath than in Scotland. It may at the time be remarked, that their religion is more doc- than directly veneralive or sentimental—a pecu- which may be traced in the plainness of their of worship, as either its cause or its effect. There considerable tendency in the Scottish intellect to mentative reasoning, and this shows itself in the e in their churches as well as in their philosophi- erature. The domestic virtues flourish in much me degree in Scotland as in England; but the er classes in North Britain are not nearly so re- able for cleanliness as the lower English, and they suffered of late years from the extensive use of spirits. The rural labouring classes are re- able for their steady industry and decent conduct; is only, perhaps, amongst the lower orders in towns, that much moral deterioration has taken

For centuries, the wandering disposition of the has been remarkable. An immense number of persons every year leave their native country to their fortune in the busier English cities, in public yment in India, in the colonies, or in other parts world. These persons have generally a tolerable tion in proportion to their rank and prospects; ing found possessed of steadiness, fidelity, and erance, they rarely fail to improve their circum- s. We are here reminded of the advantage which nd has long enjoyed in the possession of an uni- ly diffused means of elementary instruction. This, h in some respects over-estimated, has at least en- that nearly every person reared in Scotland is ithout some tincture of literature.

PROGRESS OF POPULATION.

population of Scotland, at the end of the seven- century, did not probably exceed a million. In when an attempt was first made to ascertain it, ears to have been about 1,265,380. From that the country made a start in manufacturing and ercial prosperity, as well as in improved modes ral husbandry, and the population experienced lingly a considerable increase, though not as great portion as the increase of wealth. The various s since 1801, inclusive, give the following re- —

01, - -	1,599,068	1821, - -	2,093,456
11, - -	1,805,688	1831, - -	2,365,114

crease has taken place chiefly in large towns, a of the progress of manufactures and commerce. ascertained that, of the total families in 1821, 9 were employed in agriculture, and 190,264 in manufactures, and handicrafts; leaving a re- der of 126,997 subsisting otherwise. Since then, proportion of the second class has probably expe- d a large increase. The progress of population otland has, according to Mr M'Culloch, "been han its progress during the same period in Eng- and Ireland; while there are good grounds for ng that the wealth of Scotland has increased more y than that of either of these two countries. This ble result," our author adds, "seems to have been principally to the consolidation of small farms low country, the introduction of sheep-farming he Highlands, and the obstacles imposed, by the Scotland as to leases and the operation of the aws, against the subdivision of land and the ng of superfluous cottages. These circumstances, ned with the moral and religious habits of the , and the general diffusion of education, have marriages be deferred to a later period than in parts of the empire, and have also led to a very ive emigration. * * In consequence, the

Scotch have advanced more rapidly than the English or Irish in wealth, and in the command of the necessaries and conveniencies of life. Their progress in this respect has, indeed, been quite astonishing. The habits, diet, dress, and other accommodations of the people, have been signally improved."*

It has been shown, on the other hand, that the comforts of the people have not every where improved in the ratio of the general advance of wealth. That operation of the limited poor-laws of Scotland which Mr M'Culloch eulogises, has been shown by Professor Alison of Edinburgh to send annually great numbers of superannuated labourers and others into the large towns, where they form a dense population, living in semi-destitution, and in other circumstances unfavourable to health, and are thus exposed to fevers and other contagious maladies, which periodically sweep them off in large numbers. It is contended by the same writer, that the low condition in which the scanty provision for pauperism compels many to live, gives them reckless habits, and tends materially to increase a mean, squalid, and dangerous population. There is certainly much truth in these views. The sanitory condition of Glasgow forms a startling illustration of them. During five years, from 1835 to 1839 inclusive, the number of fever cases treated at the public expense in that city was 55,949, or about 11,000 per annum, and the deaths in the same period were 4788. The population of Glasgow has risen from 151,540 in 1822, to 272,000 in 1840, and in that period the rate of mortality has been rapidly advancing. In 1822, the mortality was 3408, or one in about 44¼ of the population; in 1825, it was 4571, or as one in about 36¼. In 1828, the mortality increased to 5534, which, at the then amount of the population, was one in 33—a proportion alarmingly high. Since then, however, the inhabitants of this great city have suffered still more severely. In the year of the Asiatic cholera, 1832, when the population was 209,230, the mortality reached the enormous amount of 9654, or one in about 21¼; and again, in a year of severe fever (1837), when the population was estimated at 253,000, it reached 10,270, or one in about 24¼. It would appear as if, after such disastrous periods, the mortality becomes for some time lessened. After 1832, it rebounded to one in 36, and after 1837 to one in 37, or thereabouts. Probably this is in some measure owing to the effect of severe epidemics in carrying off so many of the least healthy of the people. It is to be remarked, that in these results no account is taken of still-born children, who, in the eighteen years before 1840, amounted to 8763. The proportion of the still-born is startlingly high, being, in 1830, 471 out of 6868, or about a fourteenth. In this fact alone, we cannot help thinking we behold a strong proof of the amount of misery and unfavourable modes of living prevailing in Glasgow.

The average annual mortality in Gl[illegible]gow, for the period between 1822 and 1830, both inclusive, one in 38¼; for the period between 1831 and 1839, also both inclusive, one in nearly 32. At the latter date, if it were habitual, Glasgow would stand forth as one of the cities most fatal to human life in Europe. Another fact is most remarkable, that, of the deaths during these eighteen years, 43 per cent., *or not much short of the one-half, are of children under five years of age, and* 18 *per cent. under one year of age.* It further appears, from minute evidence, that in the years of unusually great mortality, there is a larger proportion of deaths amongst the adult population, *showing how fatal the epidemics are to heads of families.* From one-fourth to one-fifth of the funerals in Glasgow are at the public expense—an impressive fact, seeing how it *connects poverty with mortality.*

REMARKABLE NATURAL SCENERY.—NATURAL CURIOSITIES.

The comparatively irregular surface of Scotland, or, as a geologist would remark, its being more generally formed of the primitive and early rocks, has en existence of much picturesque and romantic the attractions of wh have been greatly hel of late years by — of the native poets an ists, particularly . ter Scott. The Highla be said to [illegible] tract of such scenery some parts are considerably more beautiful tha Fine scenery in Scotland generally lies along of lakes or the vales of rivers. The chief tr the following:—

Lower Perthshire.

The Trosachs and Loch Katrine.—This is a h district, situated at the distance of little mo twenty-five miles from Stirling, and remarkabl scenery of Scott's *Lady of the Lake.* It may b commence at the large Lowland village of Ca which is only sixteen miles from Stirling. Thi lies in the bosom of the valley of the Teith, w hills on all sides except the east, and apparent pying the last patch of level ground before the t enters the Highlands. The surrounding scener thy of being explored; two places, in particular be visited. The first is the *Fall of Bracklin,* among the hills, at the distance of a mile an in a north-easterly direction from the villa consist of a series of cascades formed by the ous rushing of a mountain stream, termed the down a rugged rocky ravine. Each cascade eight to ten feet in depth, and altogether, t may measure upwards of a hundred feet, bef finally settle in a profound receptacle at the Above the chasm there is thrown a rustic foot from which the view of the falls, when the water is particularly grand. This spot is worthy o visited by geologists, on account of the singular of rifted rock over and among which the wate tuously dashes.

The other place to which we would draw atte the *Pass of Leny.* This is a narrow opening, mile to the north-west of the village, which affo cess, as its name imports, from the low country wild recesses of the Highlands. While the val Teith continues towards the west, the road to t of Leny strikes off in a north-westerly direction. with waving woods and bound in by lofty mou this is a scene of great sublimity. A rapid river issues from the mountain lake denominated Loc naig, hurries through the narrow vale over a s little cascades, yielding a music harsh and wild, keeping with the ruggedness of the scene. Th leads along the brink of Loch Lubnaig, to th parish village of Balquidder, where, in the chur the grave of the celebrated freebooter Rob Roy pointed out.

The road towards the Trosachs pursues a t line along the base of a mountain range, skirt north side of the valley. In the bottom of the in succession two long stripes of water, or lakes Loch Vennachar and Loch Achray. Immedia fore approaching the eastern extremity of the these lakes, which is by much the smallest, a ro off to the right, into the vale of *Glenfinlas*—a ten miles in extent, formerly a royal hunting destitute of the smallest symptom of habitatio cultivation, and which any one who wishes to complete idea of an Ossianic desert, in all its ste lonely wildness, may be recommended to traver bridge crossing the stream which descends fr vale, is called the Bridge of Turk, on account o boar, which had done much mischief in the nei hood, having been slain at the place in times l gone.

On coming to the head of Loch Achray, you a the Trosachs. At this point is situated an inn, a strange Gaelic name, sounding something li kencrockran. This is the last human habitatio route, and here travellers usually quit their veh order to walk the remainder of the distance; th

* Statistical Account of the British Empire.

, will accommodate a chaise to the verge of
atrine. The Trosachs is simply a concluding
f the vale, about a mile in extent, and adjoin-
e bottom of Loch Katrine. From the tumul-
nfusion of little rocky eminences, of all the
ntastic and extraordinary forms, which lie
ut the bottom of the vale, and are every
hagged with trees and shrubs, nature here
aspect of roughness and wildness, of tangled
tricable boskiness, totally unexampled. The
ing contracted, hills, moreover, rise on each
great height, which, being entirely covered by
hazels, oaks, hawthorns, and mountain ashes,
te greatly to the general effect. The meaning
ord *Trosachs* in some measure describes the
rough or *bristled* piece of territory. The
f the *Lady of the Lake* has described it as "a
scene of mountains, rocks, and woods, thrown
in disorderly groups."

termination of the Trosachs, Loch Katrine
es: it measures about ten miles in length, and
reckoned one of the most beautiful in Scot-
s principal charm consists in the singular
rildness of its mountainous sides, and its pretty
ets, rising to a considerable height out of the
d tufted over with trees and shrubs. Near
rn extremity of the lake, there is precisely
island as that which is described in the poem
idence of the outlawed Douglas and his family.
he wishes of the imagination—if such a phrase
used—Lady Willoughby D'Eresby, the pro-
of the ground, has erected upon the island a
ower or cottage, such as that which the said
cupied; and he must be a traveller of more
inary churlishness who could refrain from in-
n the pleasing deception thus created.
ew of the lake, on approaching it on the east,
confined, but from the top of the rocky and
ount above, the prospect is more extensive,
at singular beauty which the author of the
the Lake has described in the following pas-

——— "Gleaming with the setting sun,
e burnish'd sheet of living gold,
ch Katrine lay beneath him roll'd,
all her length far-winding lay,
ith promontory, creek, and bay,
d islands that, empurpled bright,
ated amid the livelier light,
d mountains that like giants stand,
sentinel enchanted land.
gh on the south, huge Ben-venue
ern on the lake its masses threw—
ags, knolls, and mounds, confusedly hurl'd,
e fragments of an earlier world;
wildering forest feather'd o'er,
s ruin'd sides and summit hoar;
hile on the north, through middle air,
n-an heaved high his forehead bare."

ern.—The beautiful scenery connected with
may be said to commence at Comrie, a village
nty miles to the west of Perth, and remark-
e place of all others in the United Kingdom
rthquakes take place most frequently. The
e Earn is here, and even lower down, full of
d acquired beauty. Passing upwards towards
he scenery becomes more interesting at every
that part of the vale which adjoins to the
the lake, its character is similar to that of
che, at the corresponding extremity of Loch
hough less minutely rugged and picturesque.
rough the extensive grove at the bottom of
, now within sight and hearing of the ever-
nd ever-murmuring Earn, and then beyond
the road approaches and recedes from the
, the traveller gets frequent broken glimpses
nd and wildly serrated tops of the neighbour-
ains, whose sides present a strange piebald
by no means deficient in effect, of alternate
bare crag and incumbent verdure—a beautiful confu-
sion, indeed, of grey and green—relieved occasionally
by the darker branches of the birch and weeping-ash.

Loch Earn extends nine miles in length, and gene-
rally about one mile in breadth. It is thus described
by Dr M'Culloch:—"Limited as are the dimensions of
Loch Earn, it is exceeded in beauty by few of our lakes,
as far as it is possible for many beauties to exist in so
small a space. I will not say that it presents a great
number of distinct landscapes adapted for the pencil;
but such as it does possess, are remarkable for their
consistency of character, and for a combination of
sweetness and simplicity, with a grandeur of manner,
scarcely to be expected within such narrow bounds.
Its style is that of a lake of far greater dimensions; the
hills which bound it being lofty, and bold, and rugged,
with a variety of character not found in many of even
far greater magnitude and extent. It is a miniature
and model of scenery that might well occupy ten times
the space. Yet the eye does not feel this. There is
nothing trifling or small in the details; nothing to di-
minish its grandeur of style, and tell us we are contem-
plating a reduced copy. On the contrary, there is a
perpetual contest between our impressions and our
reasonings: we know that a few short miles compre-
hend the whole, and yet we feel as if it were a landscape
of many miles—a lake to be ranked among those of first
order and dimensions. While its mountains thus rise
in majestic simplicity to the sky, terminating in bold,
and various, and rocky outlines, the surfaces of the de-
clivities are equally bold and various; enriched with
precipices and masses of protruding rock, with deep
hollows and ravines, and with the courses of innumer-
able torrents which pour from above, and, as they de-
scend, become skirted with trees till they lose them-
selves in the waters of the lake. Wild woods also
ascend along their surface, in all that irregularity of
distribution so peculiar to these rocky mountains; less
solid and continuous than at Loch Lomond; less scat-
tered and romantic than at Loch Katrine, but, from
these very causes, aiding to confer upon Loch Earn a
character entirely its own." In passing along Loch
Earn, it is recommended to go by the road on the south
side. The house of Ardvoirdlich (Stewart, Esq.), occurs
about mid-way; its name recals the memory of Stewart
of Ardvoirdlich, a partisan of Montrose, who killed his
friend Lord Kilpont in the royalist camp at Collace,
September 5, 1644—the incident on which Scott founded
his *Legend of Montrose*. The woody promontories which
here project into the lake are remarkably beautiful.
About a mile and a half from the west end of the lake,
occur the castle and falls of Edinample, a scene of dis-
tinguished loveliness, such as people, in the spirit of
compliment, say, might give occasion to a volume, and
which, rather strange to tell, has actually done so.

The upper extremity of this beautiful lake, where the
general [illegible] the scenery may be said in some mea-
sure to be altogether condensed and combined, is enliv-
ened by the little village and inn of Loch Earn Head.

Middle Perthshire.

Dunkeld.—This small town, so celebrated for the
fine scenery in its neighbourhood, is situated on the
north bank of the Tay, at the distance of fifteen miles
from Perth and twenty-four from Kenmore. Nestling
beneath steep and woody mountains, with a noble river
running in front, across which there is an elegant
bridge, the first view of Dunkeld, in approaching it
from the south, is very striking. The village consists
of two small streets, in which are two excellent inns,
affording extensive accommodation for the tourists who
flock hither in summer. At Dunkeld, attention is called
to the venerable remains of a cathedral, and the Duke
of Athole's mansion, styled Dunkeld House; but our pre-
sent business is with the natural scenery. Most of this
is in the pleasure-grounds connected with the mansion.

Craig-y-Barns, a lofty hill, wooded to the top, which
rises behind the house, is a resort of tourists for the
sake of the magnificent view which it commands. They

are also conducted by guides to the scenery of the *Bran*, which joins the Tay on its opposite bank near the village of Inver—the birthplace and usual residence, it may be mentioned, of the late Neil Gow, so famous wherever Scottish music is known, at once for his performance on the violin and his excellent compositions. Near this place the tourist is conducted into a tasteful hermitage or summer-house, named Ossian's Hall, where he sees before him a picture representing the aged Ossian singing to some females the tales "of the days that are past," while his dog, his hunting-spear, and bow and arrows, lie at his side. On a sudden, this picture slips aside, and discloses to the view of the surprised stranger a splendid cataract, which dashes down the rocks immediately opposite to the building, and the waters of which are reflected from a range of mirrors disposed around the hall. To use the words of Dr Clarke, "The whole cataract foams at once before you, roaring with the noise of thunder. It is hardly possible to conceive a spectacle more striking. If it be objected that machinery contrivance of this sort wears too much the appearance of scenic representation, I should reply, that as scenic representation I admire it, and as the finest specimen of that species of exhibition; which, doubtless, without the aid of such a deception, would have been destitute of half the effect it is now calculated to produce. A little below this edifice, a simple but pleasing arch is thrown across the narrow chasm of the rocks, through which the river flows with vast rapidity. About a mile higher up the Bran, is the *Rumbling Bridge*, thrown across a chasm of granite, about fifteen feet wide. The bed of the river, for several hundred feet above the arch, is copiously charged with massive fragments of rock, over which the river foams and roars like the waters at Ivy Bridge in Devonshire. Approaching the bridge, it precipitates itself with great fury through the chasm, casting a thick cloud of spray or vapour high above the bridge, and agitating by its fury even the prodigious masses which form the surrounding rocks. Few objects will more amply repay the traveller for his trouble of visiting them, than the woody precipices, the long, winding, shady groves, the ruins, and cataracts of Dunkeld."

In the angle formed by the junction of the Bran and Tay rises *Craig Vinean*, a broad shadowy mass of firs, reared against the sky. A neighbouring eminence obtains the name of the *King's Seat*, in consequence of King William the Lion having been in the habit of stationing himself upon it, in order to shoot at the droves of deer which his attendants caused to pass through the adjacent hollows. It is related that Queen Mary also practised the same sport at this place, and on one occasion narrowly escaped destruction from an infuriated stag.

Aberfeldy, Kenmore, and *Killin*.—Tourists frequently proceed from Dunkeld along the banks of the Tay, in order to comprehend the tract of scenery here indicated. *Aberfeldy*, a village not in itself remarkable, is celebrated for the fine cataract, formed by a small tributary of the Tay, in its neighbourhood, and near the house of Moness. The tourist is conducted by a guide along the thickly wooded banks of this rivulet, till, about a mile from the village, he reaches the first of the celebrated waterfalls of Moness. A little sub-tributary rill here pours, in a series of cascades, down the side of the glen, amidst a natural scene of the greatest beauty. A little farther up the main dell, the rivulet pours along a steep natural staircase, of a hundred feet in perpendicular descent, the sides of which rise abruptly and ruggedly, clothed with the most beautiful natural plants. This scene is described by Burns in one of his songs :—

"The braes ascend like lofty wa's,
The foaming stream deep roaring fa's,
O'erhung wi' fragrant spreading shaws,
The birks of Aberfeldy.
The hoary cliffs are crown'd wi' flowers;
White o'er the linn the burnie pours,
And, rising, weets wi' misty showers,
The birks of Aberfeldy."

At a t[illegible] her up, the pathway [illegible] on the other side [illegible] Moness Falls as "an [illegible] be admired in the [illegible]

A ride of six miles along the Tay brings th[illegible] to *Kenmore*, a village of famed beauty, situ[illegible] east end of Loch Tay, at the place where [illegible] issues from that sheet of water. This is one [illegible] stages, or *points*, in the tour of Perthshire [illegible] provided, accordingly, with a good inn. [illegible] ascend on each side; on one hand there is a r[illegible] on the other, towards Aberfeldy, stretch th[illegible] grounds around Taymouth Castle, the seat o[illegible] quis of Breadalbane. This magnificent ho[illegible] worthy of the great chief and land-proprietor [illegible] it—is about a mile to the east of Kenmore, t[illegible] gateway of the park opening from the street [illegible] lage. It is a dark grey castellated edifice, [illegible] aspect, situated in the low ground beside the [illegible] a beautiful backing of woody hills rising behi[illegible] princely place and its adjuncts made a deep i[illegible] on the mind of Burns, who visited it in 1787 [illegible] described it:—

"The outstretching lake, embosomed 'mong the h[illegible]
The eye with wonder and amusement fills;
The Tay, meandering sweet, in infant pride;
The palace rising by his verdant side;
The lawns, wood-fringed, in nature's native tast[illegible]
The hillocks dropp'd in nature's careless haste;
The arches striding o'er the new-born stream;
The village glittering in the noon-tide beam."

A guide is required to introduce a stranger [illegible] beauties of the Taymouth Park, among whic[illegible] remarkable is the *Beroean Walk*, a grand [illegible] four hundred and fifty yards in length, whic[illegible] one of some lofty cathedral, "casting a dim [illegible] light."

Loch Tay is a fine sheet of water, fifteen [illegible] length, lying between two ranges of hills. In t[illegible] of the north-west side rises *Ben Lawers*, to t[illegible] of 4015 feet. An island near Kenmore foru[illegible] tained a priory of Augustines, founded by Ale[illegible] in the year 1122. Here his queen, Sybilla, da[illegible] Henry I. of England, was buried. Loch Tay i[illegible] able, like some other Scottish lakes, for hav[illegible] on several occasions, greatly agitated at the n[illegible] the occurrence of earthquakes in distant pa[illegible] world. It is from fifteen to a hundred fath[illegible] There is a road on each side to Killin, the[illegible] being sixteen miles. Both abound alike in fin[illegible] though, by pursuing that along the south si[illegible] will be obtained of the lofty Ben Lawers, [illegible] scarcely be seen in such perfection on the [illegible] side. The mixture of wood, rock, and cultiv[illegible] which the traveller finds skirting Loch Tay, [illegible] prise him with its happy effect. The old [illegible] minute farms prevails here in all its pristin[illegible] and a prodigious number of rude and picture[illegible] tages necessarily enter into the compositio[illegible] landscape.

Killin, a straggling little village, situated i[illegible] vale at the head of the loch, is celebrated for t[illegible] beauty of its scenery. Here two rivers, the [illegible] and the Lochy, come down out of different g[illegible] join their waters with each other and with [illegible] The vale of the latter is peculiarly beautiful; [illegible] of the Dochart, extending up to Tyndrum, [illegible] great west road, is only stern and wild. On [illegible] at the town, the Dochart breaks over a strang[illegible] of table rock in a thousand little cascades, a[illegible] traveller, who crosses a bridge just at the [illegible] bewildered, as he looks around, with the flas[illegible] sparkling water which every where meets his [illegible]

"Killin," says Dr M'Culloch, "is the most [illegible] dinary collection of extraordinary scenery in [illegible] unlike every thing else in the country, and [illegible] on earth, and a perfect picture-gallery in its[illegible] you cannot move three yards without meetin[illegible]

e. A busy artist might here draw a month, and
ust it. It is indeed scarcely possible to conceive
distinct and marked objects collected within
a space, and all so adapted to each other as
o preserve one character, and, at the same
produce so endless a number of distinct and
landscapes. To find, however, all that Killin
ive of this nature, it is necessary to pry about
ners, like a cat; as the separate scenes are pro-
very slight changes of position, and are often
very unexpected places. Fir-trees, rocks, tor-
ills, bridges, houses—these produce the great
the middle landscape, under endless combina-
hile the distances more constantly are found
urrounding hills, in the varied woods, in the
xpanse of the lake, and the minute ornaments
istant valley, in the rocky and bold summit of
illeach, and in the lofty vision of Ben Lawers,
wers like a huge giant to the clouds, the mo-
the scene."

e north-west shore of Loch Tay, near Killin,
he mouldering ruin of Finlarig Castle, built by
n Campbell of Glenurchy between 1513 and
nd the seat of the family before their removal
ch or Taymouth. "We observe also," says a
r, writing in 1802, "situated on a plain at the
l of the lake, a neat but small mansion (Kinnel),
ig to Mr M'Nab, the chieftain of that name.
nily burial-ground, *Inish-Mhui*, close by the
s pointed out to the stranger as a place of singu-
ity. It undoubtedly is such, and is highly cal-
to raise ideas of tenderness and sorrow; as an
d grove of tall pines, whose solemn aspect and
ence are in fine harmony with the waters around
lue expanse of the lake calm and unruffled, and
lime height of the mountains that rise from its
, are objects well suited to correspond with the
at Fingal sleeps here in the dust."

Dunbartonshire.

act of beautiful scenery extends through this
from the banks of the Clyde along those of the
and including the magnificent Loch Lomond,
est and probably most beautiful of our British

e starting point, in an angle formed by the con-
of the Leven and Clyde, is a basaltic mass shoot-
to the height of 560 feet above an alluvial plain.
lords a site for the celebrated *Dunbarton Castle*,
atic fortress, noted in Scottish history, and one
kept in repair in terms of the Act of Union.
the town of Dunbarton, the tourist proceeds
along the vale of the Leven, a scene of singu-
ity, filled with thriving villages and elegant
es. The road, at the distance of two miles from
n, passes the old mansion-house of Dalquharn,
ch, in the year 1721, the author of Roderick
n first saw the light. Archibald Smollett, the
of the novelist, was the fourth son of Sir James
t of Bonhill, and, having married against his
s will, was residing here, in possession of one of
me of the family property, at the time of the
f his illustrious child. In a field on the opposite
side of the road, there is an obelisk to the me-
f the novelist, erected and inscribed by his cou-
man, James Smollett of Bonhill. Immediately
, the road passes through the populous modern
of Renton, occupied by persons engaged in the
ring bleachfields, and taking its name from
a lady married into the Smollett family. This,
other similar village named Alexandria, a little
on, together with the appearance of various
on a large scale scattered over the landscape,
that industry of a different kind from that which
n "embrowned with toil," has taken possession
impid waters of the Leven, to which, therefore,
utiful ode of Smollett is no longer strictly appli-
Bonhill, the ancient seat of the novelist's family,
ite to Alexandria. Several other mansions of
handsome appearance enliven the road before it arrives at *Balloch* (town at the foot of the lake), a small village and inn at the southern extremity of Loch Lomond, four and a quarter miles from Dunbarton. From this place a steamer, on earth at least "yclept Euphrosyne," starts every morning to conduct tourists along the lake.

Loch Lomond measures twenty-three miles in length from north to south; its breadth, where greatest, at the southern extremity, is five miles, from which it gradually grows narrower between the enclosing hills, till it terminates in a mountain streamlet. The whole aqueous surface is calculated at 31½ square miles, or 20,000 English acres, and it is studded by above thirty isles, mostly at the southern extremity. These islands, together with the shores of the lake, are in general clothed with dark wood, which gave occasion to a distinction very judiciously drawn a few years ago by a Swiss tourist between Lausanne and Loch Lomond: "Our lake" he said, "is the fair beauty—yours the black." The first isle that occurs is a long narrow one named *Inch Murrin*, at the southern extremity of which there is an old ruined fortalice, called Lennox Castle, said to have formerly been a residence of the Earls of Lennox. This isle is now the property of the Duke of Montrose, who employs it for the keeping of deer. In succession from Inch Murrin, towards the north-east, occur *Inch Cro* (the isle of cattle), *Torr Inch* (the wood isle), and *Inch Caillach* (the island of women, having been the site of a nunnery). On the south side of Inch Caillach, is *Clar Inch* (flat island), a very little member of the archipelago; at the north end the ruins of a castle are to be seen under water, testifying that the surface of the lake must have risen in the course of ages. Inch Caillach, which formerly gave name to the parish of Buchanan, and was the burial-place of the Macgregors, has on its north side *Inch Fadd* (long island), which bears grain and pasture, and near which is *Ellendarroch* (the small rugged island). Another group, to the northward, stretch between the peninsula of Rossdoe, on the west side of the lake, and Strathcashel Point, on the east. *Inch Tavanagh*, the first in this group, and which derives its name from having once been the residence of a monk, contains 150 acres, partly covered with wood; it is the highest island in the lake. At a little distance to the south, the ruins of Galbraith Castle, once the residence of a family of that name, start up from the water. To the east of Inch Tavanagh are *Inch Conagan*, covered with oak and fir, and *Inch Moan*, a low isle correctly described by its name, which signifies the island of moss. Still farther to the east are *Inch Cruin*, on which is an asylum for insane persons, and *Buc-inch* (goat-island). North from these lies *Inch Lonaig*, 150 acres in extent, and bearing many old yews, formerly of great use in furnishing the materials of bows and arrows. Of the whole thirty islands, the remainder are unimportant. South of Luss, the depth of the lake is rarely more than 20 fathoms: in the northern and narrower part it ranges from 60 to 100 fathoms; and in the places where deepest never freezes. In ancient times, Loch Lomond was famed for three wonders—"waves without winds, fish without fins, and a floating island." The first phenomenon is attributed to a peculiar atmospheric effect, not easily described, but which has also been observed on the Cumberland lakes; vipers swimming from island to island account for the second; the floating island is supposed to have been a detached fragment of moss, or a matted mass of aquatic plants, which ultimately fixed itself near the west side of Inch Conagan. The lake abounds in delicious fish.

Loch Lomond is skirted on the west side by the road from Dunbarton to Inverary. Less than a mile from the lower end of the lake, this road passes Cameron House, long the seat of the Smolletts of Bonhill, and described as such in the novel of *Humphry Clinker*, where we have many panegyrics upon its scenery. A little farther on, the fine modern mansion of Belretiro overhangs the road upon the left. Here, through a fine vista, appears the polished expanse of Loch Lomond,

its large islands, and the soft hills in the distance—a view that never fails to arrest the attention of the traveller. The objects that crowd into this scene are so finely diversified in form, in situation, and in colour, as to compose a picture at once beautiful and impressive. At the seventh mile-stone, upon the left, is Arden, the property of H. Buchanan, Esq., environed with woods, and placed at the bottom of a lofty hill, called *Dunfion*, or the hill of Fingal, tradition reporting it to have been one of the hunting seats of that hero. Somewhat farther on, and passing Nether Ross upon the left, the traveller crosses a small river called the Water of Fruin, which falls into the lake. It rises in *Glenfruin*, or Vale of Lamentation, so called, it is said, from a dreadful slaughter of the Colquhouns by the Macgregors, in 1602, and on account of which the Macgregors were, for nearly two centuries, unceasingly persecuted by government. The promontory of *Rossdoc*, which forms a beautiful situation for the mansion of the same name (Colquhoun of Luss, Bart.), is then passed; after which a scene of uninterrupted beauty continues all the way to Luss, twelve miles from Dunbarton.

Luss, a delightful little village, on a promontory which juts into the lake, is much resorted to in summer, on account of its being a convenient station for tourists in search of the picturesque. One of the finest points for enjoying the scenery of Loch Lomond and the environs of Luss, is Stronehill, to the north of the village. At this point, about one-third of the way up a lofty hill, the whole breadth of the lake is spanned by the eye, including

> ——"all the fairy crowds
> Of islands which together lie,
> As quietly as spots of sky
> Among the evening clouds."

From this point, the isles appear distinctly separated from each other, but not so much so as to give the idea of a map or bird-eye view, which a higher point of view would undoubtedly present. The prospect is bounded on the south by the distant hills which intervene between Loch Lomond and the Clyde, and which here appear, in comparison with the mountains around, to be only gentle swells; the Leven, its vale, the rock of Dunbarton, and even the surface of the Clyde, are in the same direction conspicuous. Towards the east, the vale of the Endrick, its principal seats, the obelisk erected to the memory of Buchanan at Killearn, and the Lennox hills, are also distinctly visible. Turning to the north, the lake is seen to wind far away among the mountains.

At *Inveruglas*, three and a half miles beyond Luss, there is a ferry to Rowardennan Inn, the usual starting-point for those who desire to ascend to the top of *Ben Lomond*. This mountain, situated in the county of Stirling, is 3240 feet above the level of the lake, which is 22 above the level of the sea. At Rowardennan, when looking northward, it almost completely fills up the view. It consists in three great stages, each rising above the other; these again are divided into a number of lesser swelling knolls, some of which are covered with heath and crags, while others are verdant and smooth. The distance from the inn to the top of the mountain is six miles of a continued ascent, which, in general, requires about three hours. From the summit, a varied and most extensive prospect opens upon the eye in every direction. The lake, lately contemplated with so much pleasure, now appears a small pool, and its rich and diversified islands as so many specks upon its surface. Beyond it, and to the left, appear the vale of the Endrick, the distant county of Lanark, its towns, and the mountain of Tinto; directly south, the outlet of the lake, the River Leven, its winding and rich banks, the Castle of Dunbarton, and the counties of Renfrew and Ayr; nearly in the same direction, the Firth of Clyde, the rock of Ailsa, the islands of Arran and Bute, with the more distant Atlantic. The coasts of Ireland and the Isle of Man are, when the atmosphere is clear, within the boundary of *the view*. *To the east* are seen the counties of Stirling and the Lothians, with the windings of the Forth the Castles of Stirling and Edinburgh. The pr to the north is marked by grandeur alone. Im mountains, piled as it were above each other, a tending from the borders of Stirlingshire to the w ocean, with the indentations of the coast on on and the lakes of Perthshire on the other, form gether a scene which may be conceived, but can properly described.

Ben Lomond has this remarkable advantage as that it is not overcrowned or crowded up with surr ing hills. It seems to be sole monarch of a vast puted territory. Nowhere, therefore, is there a idea to be obtained of the Highland country than summit. The mountain itself, besides, affords a variety of scenery. To the south it stretches ou a slope of a very gentle declivity. The north awfully abrupt, and presents a concave precip many hundred yards in depth. He must posses nerves who can approach the brink and look dow moved. The rock is said to be 2000 feet in she scent.

About four and a half miles to the north of In glas, the Dunbarton and Inverary road reache lonely but comfortable inn of Tarbert, where th also a ferry by which Ben Lomond may be appro At this inn the road leaves the shore of the lake proceeds to the westward by the head of Loch and so into Argyllshire. At Inversnaid Mill, th a little cataract, the scene alluded to by Wordswo his address to a Highland girl—

> "Sweet Highland girl! a very shower
> Of beauty is thy earthly dower."

On the heights above, beside the way to Loch Ka are the remains of Inversnaid Fort, erected by th vernment in 1713 to check the turbulence of the gregors: near it is a little burial-ground, in whic garrison had interred their dead, and containin or two monuments, which have long forgot to te familiar tale confided to them. The fort was tak Rob Roy in 1716, but afterwards regained and re blished. It is said that the amiable General Wo one time resided in it.*

Firth of Clyde.—Argyllshire.

This is a tract of scenery much admired and vi on account of its presenting a fine combination land seas with islands of varied surface and cha rugged mountains.

The Clyde expands into an estuary a little way Dunbarton. There, while the comparatively low of Renfrewshire, with the thriving towns of Port- gow and Greenock, are seen on the left, attent called on the right to the towering alps of Argyll sometimes ironically called the Duke of Argyll's ing-Green. The Argyllshire shores are here dec with a long succession of villas, the favourite su residences of the more affluent citizens of Gla This mountainous region is penetrated by several of the sea, one of which, named Loch Long, is tw

* "On the east shore of Loch Lomond, and the west Ben Lomond, or what is called *Craigrostan*, a narrow alpi conducts through scenery of gigantic features. Here tra countenanced by Barbour, has assigned to Robert Bruce in which he sojourned a night when passing from Strat after the nearly fatal combat with Macdougal of Lorn. to a steep shelving rock is pointed out as what is calle *Roy's Prison*,' where that Highland laird is reported to have such of his vassals as he had adjudged to durance. One tenants had not paid his rent when it became due. Rob, s ing him on a rope by the shoulders, let him down into the fa Having drawn him up at the end of twenty-four hours, him that, if he failed to pay by a particular time, he shou him up by the neck. North of Craigrostan is what is said been used by him as his cave. It is a rude subterraneous formed by a huge avalanche of the mountain. Here, acc to tradition, he rendezvoused with his followers."—*Sc Edition of Nimmo's Stirlingshire.*

Loch Leven, a road opens up a splendid tract of ntain scenery, the most striking being compre- hel in the valley of Glencoe. Another road, pro- ing in a northerly direction, leads to Loch Awe, an d lake possessing many fine features, and upon h stands the ruined castle of Kilchurn, once the f stronghold of the Breadalbane family. The loch erhung by Ben Cruachan, a mountain 3390 feet in ht, on the skirts of which King Robert Bruce gained tory over his powerful enemy, the Lord of Lorn. he northern portion of Argyllshire, where it is ded by the western ocean and its many inlets, rou- s much fine scenery. In a sheltered situation on the coast, stands the neat and cheerful town of Oban, nt of rendezvous for the numerous steamers pur- ting these seas, and a kind of entrepôt for the rural luce of the wide district around it. In front is the of Kerrera, where Alexander II. died in the course n expedition to the western islands. On the coast, dle to the north of Oban, is Dunolly Castle, the sion of the Macdougals of Lorn, and a little way ther north is Dunstaffnage, an ancient seat of the donian kings, occupying a commanding site on the of a rock overlooking the sea.

och Linnhe, opening between Lorn and Morven, the commencement of the chain of salt and fresh r lakes formed into the Caledonian Canal, presents oth sides scenery of a most romantic character—a ture of bold rocky forelands, on many of which are shed the eyrie-like fortresses of the rude chiefs of idden time, and green smiling hollows, within bays, re the elegant habitations of a modern gentry have placed. The long island of Lismore, in the mouth its estuary, was the ancient appanage of the bishops Argyll, and temporarily the site of a college for olic priests, after the French seminaries were closed he Revolution; but is now only remarkable for the t quantity of limestone exported from it. Opposite s upper extremity, Loch Creran, a sub-estuary, nches off into the land of Lorn, opening up much utiful scenery. On the south shore of Loch Linnhe, e north of the opening of Loch Creran, is the dis- of Appin, previous to 1765 the property of a race of Stuarts, descended from a natural son of the last Lord n, and for four centuries conspicuous in Highland ory. In this district, the first mansion which occurs e north of Loch Creran is Airds, the seat of Sir n Campbell. Next is the ruin of Castle Stalker, an ent massive building. Appin House, the seat of Downie of Appin, next occurs; and after that, at the th of Loch Leven, Ardshiel (Stewart, Esq.) From allachulish Ferry on Loch Leven, noted for its great rry of slate, the west Highland road penetrates the ge vale of Glencoe.

Glencoe opens a little to the north of a solitary inn d the King's House, and extends about ten miles north-westerly direction to Ballachulish. It may described as a narrow strip of rugged territory, g which hurries the wild stream of Cona, celebrated Ossian, who is said to have been born on its banks. ach side of the narrow banks of this river, a range tupendous hills shoots perpendicularly up to the ht of at least 2000 feet, casting a horrid gloom over vale, and impressing the lonely traveller with feel- of awe and wonder. The military road sweeps g the right side of the glen. From the sides of the an immense number of torrents descend, sometimes ping over and spoiling the road, which is always, efore, in a very precarious state. From the one of the vale to the other, only one human habita- is to be seen; and as it is not a road of much cur- y, the traveller may pass through it without meet- a single human being. The goats scrambling among rocks, and the wild eagle hovering about the tops e wall-like hills, are usually the only living objects in sight; and, as may be conceived, these rather ease than diminish the wildness and desolation of scene. The place where the famous massacre of coe happened, is at the north-west end of the vale.

Inverness-shire.—The Great Glen.

Between Loch Linnhe on the west coast and a point on the Moray Firth near Inverness, there is a remarkable natural phenomenon, in the form of a glen or hollow, passing in a perfectly straight line for sixty miles through a mountainous region, and the bottom of which is nowhere more than ninety feet elevated above the level of the sea. It is called by the Highlanders *Glenmore-nan-Albin* (the Great Glen of Scotland). A chain of lakes extending along this extraordinary hollow suggested the formation of a canal which should admit of navigation between the seas on the two sides of the island, and save the dangerous passage round by the Pentland Firth; and this, under the name of the *Caledonian Canal*, was formed between 1803 and 1822, under the care of Mr Telford, at an expense of £800,000. This line of communication has not proved so useful as was contemplated; but, by admitting of a line of steamers between Inverness and Glasgow, it has been the means of allowing a vast number of persons to enjoy the magnificent scenery through which it passes.

The canal commences at Clachnaharry, in the outskirts of the town of Inverness, and, after six miles, enters the first of the chain of lakes, *Loch Ness*, a grand piece of water, twenty-three miles long, situated amidst stupendous and sterile mountains. The waters of Loch Ness never freeze, but they are often agitated simultaneously with the occurrence of earthquakes in distant parts of the world. On an elevated rock projected into the north-east margin of Loch Ness, are situated the remains of Urquhart Castle, consisting of a great square keep and several exterior walls of defence. It was besieged in 1303 by the officers of Edward I., and with great difficulty taken; it afterwards was a royal fortress; and, finally, in 1509, it became the property of Grant of Grant, ancestor of the Earl of Seafield, to whom it now belongs. Glen Urquhart, which recedes behind Urquhart Castle, is a beautiful Highland vale, sometimes likened to Tempe, and containing many gentlemen's seats and a good inn. The conspicuous mountain, *Mealfourvonie* (hill of the cold moor), upwards of 3000 feet in height, here begins to raise its huge bulk above the banks of the loch. About 500 feet from the summit, there is a lake about a mile long, which cannot be much less than 3000 feet above the level of Loch Ness. On the top of the hill there is a cairn, the accumulation of which must have been a work of great labour. Mealfourvonie stands so prominently above the neighbouring herd of hills, that it is not only singled out by the eye at Inverness, but is the first landmark seen on entering the Moray Firth, at the distance of a hundred miles.

The road along the south side of Loch Ness, though it presents numberless fine views, is enlivened by few traces of man's presence. The paucity of houses gives a sort of distinction to the inn named General's Hut, nearly eighteen miles from Inverness, originally the residence of General Wade, while superintending the formation of his roads. Little more than a mile farther on, a recess or chasm in the hill by the side of the lake contains the celebrated *Fall of Fyers*. At the bottom of the recess there is a smooth little plain, descending upon the lake, ornamented by the house and shrubberies of Fyers, and where the steamers usually disembark such passengers as may desire to behold the waterfall. A path accessible to carriages, winds backwards and forwards, up the face of the hill, till the height of the public road is reached; and then there is a pathway leading down the face of the crags, towards a projecting rock, on which visiters usually stand to see the fall. The Fyers is not a very copious stream, except in rainy weather; consequently there are great variations in the aspect of the cascade. In its medium fullness, it pours through a narrow gullet in the rock, in a round unbroken stream, which gradually whitens, as it descends, till it falls into a half-seen profound, usually described as two hundred and forty feet below the point of descent, though this is supposed to be an exaggeration. A dense mist is constant rising from the broken water, like the heavenw pirations of an afflicted and tortured spirit. Th is usually very loud. About a quarter of a mile up the ravine, there is another cascade, usuall the Upper Fall—a fearful gulf, down which th descends by three leaps, and over which a bri been thrown, by way of station for a sight of t ract. All this stupendous ravine is covered by on whose every leaf a pearl of vapoury dew is co hanging.

A few miles farther on, *Glenmorrison* open the north-west bank of Loch Ness. It is a va of romantic scenery, and belongs to a branch family of Grant. While the steam-borne trave cessarily pursues the route by the lake, the t by the south road, after passing Fyers, leaves th of that piece of water, and advances into *Strat* a long valley behind the line of hills which c Loch Ness. A secluded valley, called Killean, upon this part of the road near Whitebridge, is of as a singularly secluded and romantic piece of At the distance of thirty-two miles from Inver road descends upon Fort Augustus and the litt of Killicumming, so called as the burying-plac C mings, lords of Badenoch.

rt Augustus, situated in a pleasant opening the hills, at the termination of Loch Ness, was in 1730, as an addition to the means previously for the control of the turbulent children of the tains. Its purposes being long since accompli has for many years been only occupied by two artillerymen. From Fort Augustus, the cut of t is resumed, and several locks are ascended; a miles brings it to *Loch Oich*, the smallest of th of lakes. The scenery is here finer than at an part of the Great Glen. On the north-west ban loch is Invergarry, till a recent period the resid the chief of Glengarry, a handsome modern h in the immediate neighbourhood of an older m which has been in ruins since burnt down by th troops in 1746, in consequence of the part taken chief in the rebellion.

The next and last loch is *Loch Lochy*, the h vironing which are the most hopelessly wild a pendous of all in the glen. The summit level canal is between Loch Oich and Loch Lochy ninety feet above the ordinary high-water mark William, and ninety-four above that at Inver difference to be accounted for by the pressure Atlantic on the west shores of Scotland. The little inn of Letter Findlay is the only house seen on Loch Lochy; but when the west end is reached, the traveller discovers, in a recess right side, the house of Auchnacarrie, which residence of the gallant and unfortunate Locheil he entered upon the fatal campaign of 1745. The after leaving this loch, descends in a precipitous of locks, called *Neptune's Staircase*, into Loch continuation of Loch Linnhe, the arm of the merly mentioned.

At this point the glen is more spacious th where else. It is, however, the spaciousness of The River Lochy, which issues from the lake same name, pours its voluminous and impetuous towards Loch Eil on the left; and beyond it Ben is seen to rear his enormous head, with the Glen Nevis withdrawing from his mighty side i solitudes of Lochaber. At the distance of little than a mile is the town of Fort William, so calle a fortress of the same name built for the repres Highland turbulence, and now nearly disused.

A cluster of glens to the south of the Great G remarkable for a natural phenomenon, usually the Parallel Roads of *Glenroy*, such being the n the vale in which the wonder is most conspic marked. It consists of a set of terraces, in most three in number, extending along both sides of vales for miles, the uppermost 82 feet abo

second, which, again, is 212 feet above the first. The common people represent these terraces as roads formed at the command of Fingal, an early hero, for his convenience in hunting; but they are in reality ancient beaches of inland seas, raised into their present position by successive upheavals of the land—phenomena with which modern geologists are familiar.

Western Islands.

The Western Islands are generally bleak and rugged in surface, and occupied by a very poor class of tenantry. In some of them, particularly Skye and Eigg, the scenery attains to a savage grandeur. It is not possible here to present a particular description of any besides the Isle of *Staffa*, so remarkable for its basaltic structure. It is about a mile and a half in circumference, and bears no human habitation, its only useful tenants being a small herd of black cattle. At the point of greatest elevation, towards the south-west, this island is 144 feet high. On the north-east it presents a face of somewhat less height, composed of basaltic columns, and penetrated by several caves of various sizes, into which the sea occasionally breaks with the report of thunder. This face, according to Dr Macculloch, is formed of three distinct beds of rock, of unequal thickness, inclined towards the east in an angle of about nine degrees: the lowest is a rude trap tufa; the middle one is divided into columns placed vertically to the planes of the lowest bed; and the uppermost is an irregular mixture of small columns and shapeless rock—the whole being partially covered by a fine verdure. The central columnar part having in some places given way, is the occasion of the numerous caves by which the island seems perforated.

Fingal's Cave, Isle of Staffa.

At the north-east point of the island, the dipping of the rocks is so low as to afford a safe landing-place at any time of the tide. Proceeding thence, the visiter is conducted along the north-east face, and is introduced to the *Clam-shell* (Scallop) *Cave*, where a curious confusion in the columnar structure is observable. The columns on one side are bent, so as to form a series of ribs not unlike the inside view of the timbers of a ship; while the opposite wall is formed by the ends of columns, bearing a general resemblance to the surface of a honeycomb. This cave is 30 feet in height, and 16 or 18 in breadth at the entrance; its length being 130 feet, and the breadth contracting to the termination. Next occurs the noted rock, *Buachaille* (the herdsman), a conoidal pile of columns, about 30 feet high, lying on a bed of curved horizontal ones, visible only at low water. There is here an extensive surface, resembling that of the Giant's Causeway, and composed of the broken ends of pillars once continuous to the top of the cliff. The colonnade is now for some distance upright and very grand, till the visiter reaches the *Uaimh Binn* (Musical Cave), usually called *Fingal's Cave*, by far the most impressive and interesting object in the island. It opens from the sea with a breadth of 42 feet, a height of 66 feet above the water at mean tide, the pillar on one side being 36 feet high, and that on the other 18. The depth of the recess is 227 feet, and the breadth at the inner termination 22. The sides within are columnar throughout; the columns being broken and grouped in many different ways, so as to catch a variety of direct and reflected tints, mixed with secondary shadows and deep invisible recesses. As the sea never ebbs entirely out, the only floor of this beautiful cave is the fine green water, reflecting from its white bottom tints which vary and harmonise the darker tones of the rock, and often throwing on the columns flickering lights, which its undulations catch from the rays of the sun without.

ANTIQUITIES.

There are in Scotland, and particularly in the district between the Firth of Tay and Moray Firth, numerous mounds, upright slab stones, and carved stones, which are supposed to have been raised as monuments over slain warriors, by the early inhabitants of the country, or by the Danes or other northern nations who occasionally invaded it in remote times. The most remarkable examples of mounds are two at Dunnipace, on the Carron, in Stirlingshire, and one at Fettercairn in Kincardineshire.

A distinct class of mounds, called *moot* or *moat hills*, are common in the south-western and several other districts. They are generally of a square form, with a flat top. It is believed that they served as places for the administration of justice in rude ages.

Of the carved stones, a remarkable example exists at Forres. It contains figures of men and animals, in various compartments. There is another very entire and curious specimen at Aberlemno in Forfarshire. A third at Meigle is remarkable as containing a representation of one of the war-chariots used by the original inhabitants of the country.

In the north of Scotland, and in Orkney, there are some surviving examples of a very remarkable class of early buildings, to which the common people now give the name of *Picts' Houses*, as supposing them to have been built by the Picts. They are generally round buildings, of no great height, with round vaulted tops, altogether built of courses of dressed stone without mortar, and containing for the most part one central chamber, and several long narrow recesses in the thickness of the wall.

Circular mounds, the remains of British and Danish camps, are common on the tops of the Scottish hills, having probably been the places to which the early people retired with their flocks in times of danger. On several hills, particularly in Perthshire and Inverness-shire, there are remains of walls, presenting appearances as if the stony materials had been artificially vitrified. It is not yet clearly ascertained whether these *vitrified forts*, as they are called, were works of our Caledonian ancestors, or the effect of accident, though the former is certainly the more likely supposition.

The weapons used by the aboriginal people are often found, consisting of stone axes, arrow-heads of flint, &c. Necklaces, bracelets, and other ornaments used by them, barbarous in style, but generally of gold, are also often found. In various districts, Druidical circles still exist in a tolerably entire state; but none on so large or regular a scale as those of Stonehenge and Abury.

There are remains of roads and camps formed by the Romans in their hesitating and imperfect attempts to subdue North Britain; and of the wall built under the Emperor Antoninus, between the Firths of Forth and Clyde, with forts at regular intervals, it is still possible to discern a few traces.

The next class of antique objects are the remains of the Gothic fanes, reared on account of religion during the period when the Romish church was triumphant. These are every where very numerous, but in few cases tolerably entire. Excepting two cathedrals, those of Glasgow and Kirkwall (in Orkney), all of that class of

structures are in ruins. The abbeys, priories, and other conventual and collegiate establishments, are in every instance gone to decay. Melrose Abbey, the Cathedral of Elgin, and the Collegiate Church of Roslin, are the most beautiful of these ruinous buildings.

Melrose Abbey.

Numerous specimens of the towers and castles occupied by men of note in the middle ages, still exist, though mostly in a decayed state. Those which indicate the greatest strength and consequence are—*Lochmaben Castle*, the residence of the Bruces, Lords of Annandale; *Hermitage* (Roxburghshire), which belonged to a powerful noble named Lord Soulis; *Douglas*, the residence of the Earls of Douglas; *Turnberry* (Ayrshire), the residence of the Earls of Carrick; *Bothwell*, another stronghold of the Douglases; *Tantallon* (Haddingtonshire), the residence of the Earls of Angus, a branch of the Douglas family; *Dunnottar* (Kincardineshire), the seat of the Earls Mareschal; and *Doune* (Perthshire), the stronghold of Robert Earl of Fife, brother of Robert III., and governor of Scotland. Four places of strength, *Edinburgh*, *Stirling*, *Dunbarton*, and *Blackness Castles*, are still kept in repair at the public expense, and serve as barracks for foot soldiers.

MANSIONS.

The mansions of the nobility and gentry of Scotland do not differ in any important respect from similar classes of structures in England. The "hall" is, however, completely wanting in Scotland, and there are comparatively few specimens of the Elizabethan style. Turbulent times being more recent in Scottish than in English history, the chief mansions of an unfortified character in the northern kingdom are not of earlier date than the reign of Charles II., and most of them are much later. In many instances, the whole or part of the original castellated buildings which stood on the same site are retained.

Before the reign of James III. (1460–1488), there seems to have been no mansion besides the regular tower, with its surrounding inferior buildings, and external wall or barmkyne. In that, and one or two of the ensuing reigns, a few mansions were built, in an ornamental style, having, for instance, an elegant front looking inwards to a quadrangular court; yet, in these instances, the outside of the building was still a plain and almost dead wall, calculated for defence. *Crichton Castle* (Edinburghshire) and *Linlithgow Palace*, are examples. In the reign of James VI., the favourite style was the tall square tower; but this was now rendered somewhat more ornamental by means of sundry flourishes, such as minor towers projecting like pepper-boxes from the corners. *Glammis Castle* (Forfarshire) is a superb specimen of this class of mansions.

In the reign of Charles II., mansions were for the first time built in any thing like pure Grecian taste. This was introduced by Sir William Bruce of Kinross, Bart., an architect of considerable skill, and of whose works the modern Holyrood Palace, and his own house ross, are examples. During the last century, the mansions built in Scotland have partaken of all changes of taste passing through England, from heavy barrack-like structures of Sir John V to the light and elegant sian style of Adam. have now chateau- in style of the middle (*Gordon Castle*, Banffshire, and *Culzean* in Ayr Grecian structures by Adam (*Hopetoun House*, lithgowshire); mansions in the Doric and more Grecian style since introduced (*Hamilton Palace*, a perb example); and, very lately, a few specimens in priory and Elizabethan styles.

CHIEF TOWNS.

Edinburgh, the capital, is situated in the county of same name, on a cluster of eminences, distant betw one and a half and three miles from the Firth of Fo The city is composed of two principal parts, the and New Towns, the former being built on a long ridg eminence gently rising towards the west, where it minates in a lofty and abrupt rock, on which the Ca is situated, while the latter occupies lower ground wards the north. The town is universally built of a sandstone, which retains its original colour in the new parts of the town and in the best public buildings, a forms one of the most important features of Edinburg

Edinburgh.

The New Town is laid out on a regular plan of rectangular streets and squares, exhibiting in general much architectural elegance. Between the Old and New Towns, and between various sections of the New Town itself, as well as in the centres of the principal squares there are gardens laid out in the modern landscape style, forming delightful places of recreation. It is chiefly owing to the unequal ground on which Edinburgh is situated, the massive elegance and regularity of its buildings, the intermixture of ornamental pleasure-ground, and the picturesque hills immediately adjacent, whence distant and extensive prospects are commanded, that this city makes so great an impression on most strangers.

Formerly the seat of the government of the country, Edinburgh is still that of the supreme law-courts and of a flourishing university. It is also to a great extent a city of residence, not only for affluent persons connected with the country, but for strangers desirous of enjoying a society of moderate habits, and the benefit of education for their children. Its leading classes are thus composed of legal practitioners, learned persons and families in independent circumstances. It is also in a small degree a manufacturing town, the principal trades being the brewing of ale (for which the town is celebrated), coachmaking, the weaving of shawls, and the printing and issuing of literary productions. The leading periodical publications are the well-known Edinburgh Review, Blackwood's and Tait's Magazine, and a Philosophical and Medical Journal, besides which there are a number of smaller size. The town is distinguished for its numerous banking institutions, which exert an influence on the general trade of the country. Within a few miles of the city, on the Esk River, there are various paper-mills, at which vast quantities

ld Stewart, and Professor Playfair, an astronomical servatory, and a small portion of a building designed a national monument to the Scotsmen who perished the last war, but which will probably never be com-ted. The population of Edinburgh in 1831 was 6,391.

Leith, the sea-port of Edinburgh, and recently con-tuted an independent parliamentary burgh, is situated the efflux of the rivulet of the same name, which iginally constituted its harbour. The older part of the wn is crowded and mean, but in the outskirts there e some good streets. The town is connected with dinburgh by a broad and beautiful road, above a mile length, denominated Leith Walk. Besides the quays rting the embouchure of the river, there is a range wet-docks; but the harbour, after vast efforts to prove it, continues to labour under several strong tural disqualifications. During spring tides, the at-ast depth of water on the bar at the mouth of the ver is seventeen feet—during neap tides, fourteen et; and it is rarely that a vessel of 400 tons can gain mission. The want of deep water at Leith is partly pplied by a harbour at Newhaven, a stone-pier at ranton, and a chain-pier at Trinity, which serve as aces of embarkation and debarkation for steamers d other vessels devoted chiefly to passengers. The ief foreign trade of Leith is with the ports in the ltic and north of Europe; next to this in importance nks its intercourse with the West Indies. But the ports of Leith are chiefly for local consumption, and ar little reference to the great manufacturing busi-es of the country. For the coasting trade there are rious companies, each of which has several vessels in ployment. Amongst the ports with which regular tercourse is carried on by steam, may be mentioned ondon, Hull, Newcastle, Aberdeen, and Rotterdam. he tonnage belonging to Leith is on the decline: it as, in 1826, 25,674; in 1832, 23,054; in 1835, 22,073. he amount of tonnage which entered the harbour in 35 was 340,540. The gross amount of customhouse ties in 1834 was £386,905. In Leith there are seve-l breweries, a sugar-refining establishment, and seve-l manufactories of soap, candles, ropes, and glass. he Customhouse, an elegant modern building, is the at of the Board of Customs for Scotland. In 1831 e population of Leith was 25,955. The town, in union ith Newhaven, Portobello, and Musselburgh, returns member to Parliament.

Glasgow, the most populous city in Scotland, occupies highly advantageous situation on the banks of the lyde, in Lanarkshire, a few miles from the place where e river expands into an estuary, 42 miles from Edin-rgh, 397 from London, and 196 from Dublin. The xternal appearance of this great city is elegant and mpressive. The streets are regular in arrangement, nd substantially built of smooth stone. The public uildings are in general handsome, and, in most in-ances, disposed in such a manner as to be seen to dvantage. The more ancient part of the city extends ong the line of the High Street, between the Cathe-ral and the river; the more modern and elegant part retches towards the north-west. On the left bank of e river, and connected by three bridges, is situated e populous barony of Gorbals, bearing the same re-rence to Glasgow which Southwark bears to London. Vestward from the lowest of the bridges, both sides of e river are formed into quays, which, owing to recent perations for deepening the channel, are now ap-roached by vessels drawing about fourteen or fifteen et water. The quay on the right or north bank is enominated the *Broomielaw*; it has recently been ex-nded to 3340 feet in length, while that on the south ank is 1260 feet.

Glasgow took its rise as a dependency of the cathe-ral of the bishops (latterly archbishops) of the see earing its name. It was not, however, till long after e Reformation, that it became a seat of considerable opulation. About the middle of the eighteenth cen-ury, it had acquired a considerable share of the import

colonial trade, which it still retains; but, during the last seventy years, it has chiefly been distinguished as a seat of manufactures. The weaving of lawns, cambrics, and similar articles, commenced in Glasgow in 1725. The advantages enjoyed by the city for the importation of cotton, in time gave a great impulse to that species of manufacture. In 1834, out of 134 cotton-factories existing in Scotland, 100 belonged to Glasgow, and the importation of cotton into that port amounted to 95,703 bales. In the weaving of this material, upwards of 15,000 power-looms, and 32,000 hand-loom weavers, were at the same time employed by the manufacturers of Glasgow. Of calico-printing establishments there are upwards of forty. It would be vain to attempt an exact enumeration of the less prominent features of the business carried on in Glasgow. The chief articles of importation, besides cotton, are sugar, rum, tea, tobacco, and timber. The chief articles manufactured or prepared, besides cotton goods, are sugar, soap, glass, iron, ropes, leather, chemical stuffs, and machinery. There were recently seven native banks, and several branches of other banks. During a year extending from a certain period in 1839, to a certain period in 1840, 5484 vessels, of 296,302 tonnage, arrived at the Glasgow harbour; the customhouse revenue of 1839 was £468,975, and the harbour dues of the twelvemonth ending August 31 of that year were £45,826. It is worthy of remark, that the Clyde was the first river in the elder hemisphere on which steam navigation was exemplified. A steam-vessel of three horse power was set afloat on the river in January 1812, by Mr Henry Bell of Helensburgh; and there were twenty such vessels on the Clyde before one had disturbed the waters of the Thames. In 1835 there were sixty-seven steam-vessels, of 6691 aggregate tonnage, connected with Glasgow, eighteen of which plied to Liverpool, Belfast, Dublin, and Londonderry. Within the last few years, the city has become a great centre of the iron trade, this metal being produced in the neighbourhood to an annual amount of not less than 200,000 tons. As a necessary consequence of the commerce and manufactures which flourish in Glasgow, the city has a vast retail trade in all the articles of luxury and necessity which are used by human beings. But no circumstance connected with Glasgow could give so impressive an idea of the height to which business has been carried in it, as the rapid advance and present great amount of its population. By the census of 1791, the inhabitants were 66,578; and by the first government census in 1801, they were 77,385. But these numbers have been increased in 1811, 1821, and 1831, respectively to 110,749, 147,043, and 202,426. As the increase is about 7000 per annum, the present amount (1841) is supposed to be fully 235,000—a mass of population which, at the time of the Union, could not have been dreamt of as likely ever to exist in any Scottish city.

The Cathedral, or High Church, is situated in the northern outskirts of the city, near the upper extremity of the High Street. The bulk of the existing building was constructed at the close of the twelfth century, in place of another which had been consecrated in 1136, but was destroyed by fire. It consists of a long nave and choir, a chapter-house projecting from the north-east angle, a tower and spire in the centre, and a crypt extending beneath the choir or eastern portion of the building. In the nave, termed the Outer High Kirk, was held the celebrated General Assembly of the Church, November 1638, by which Episcopacy was abolished and pure Presbytery replaced—the first great movement in the civil war.

The elevated ground, near the east end of the Cathedral, has been formed into an ornamental place of sepulture, under the appellation of the Necropolis. Since 1831, the Society of Merchants, its proprietors, have expended the sum of £6000 in laying out about twenty-four acres of ground in walks and shrubberies, and in connecting the spot with the opposite slope by *means of a bridge* across the intermediate rivulet. The taste manifested in the whole scheme a execution, is extremely creditable to the ci walks, several miles in extent, command an view of the neighbouring country. They ar by numberless sepulchral plots and excavatio already affection has been busy in erecting i memorials," all of which, it may be mentio fashioned according to certain regulations, wi to general keeping and effect.

The College buildings are situated on the of the High Street, about half-way between tl dral and the Trongate. They consist in double court; the front which adjoins to t being 330 feet in length, and three storeys i The whole edifice has a dignified and venei pearance. A large piece of ground behind lege is formed into a park or green, interspe trees and hedges, and always kept in grass, t by the students as a place of exercise or am In the College there are appointed profe teachers of about thirty branches of scien logy, and polite literature. At the back of rior court stands the modern Grecian buildi contains the Hunterian Museum. This is a l lection of singular natural objects, coins, me manuscripts, paintings, and relics of antiqui nally formed by Dr William Hunter, the c anatomist, and bequeathed by him to this u at which he received his education. While th confers professional education, popular instruc tainable, under unusually advantageous circu through the medium of the Andersonian In an extensive school of science founded at the the last century, and connected with which t general museum, containing many curious obj constantly open to the public.

The most attractive modern building in G the Royal Exchange in Queen Street, a mos structure, erected in 1829, as a point of assem the merchants in the western part of the ci principal room is a large hall, supported by row of columns, and used as a reading-roo front of the Exchange consists of a magnific tico, surmounted by a cupola; and, as the is isolated, the other sides are also of decorati tecture. Altogether, this building, supported of very elegant domestic structures of similar proportions, impresses the mind of a stranger thing signally worthy of a great city.

Since the Reform Act of 1832, Glasgow ha vilege of returning two members to Parliame places of worship, charitable institutions, a clations of various kinds for public objects, numerous. A laudable zeal for the improv education marks the city; and a normal school nary for the rearing of teachers—the first in t —has been erected under the auspices of a society.

The means of communication in connex Glasgow, are suitable to the character of th one of the greatest emporia of commerce and ture in the world. Besides a river, navigabl sels drawing fifteen feet of water, and which means of a ready communication with the shores of Britain, with Ireland, and with Ant Forth and Clyde Canal, of which a branch Port-Dundas, in the northern suburbs, serve vey goods and passengers to the eastern shor island, while canals of less note connect the Paisley and Johnstone in one direction, and great coal-fields of Monkland in the other. Th a railway, which traverses the same great by Garnkirk and Wishaw, and conveys passe well as coal and goods. Another railway, c the city with Kilmarnock, Ayr, and the port of san, was opened in 1840. During the year in w sheet makes its appearance, a third railway by Falkirk and Linlithgow to Edinburgh, will b Others are projected. The steam communica

, moreover, by virtue of the recent Reform Acts, rliamentary burgh of the first class, returning one ber of Parliament. The principal branches of rade conducted in Greenock have reference to the and West Indies, the United States, and British erica, to which last it yearly sends out great numbers migrants. Sugar-baking and ship-building are other nches of industry carried on here to a great extent. Customhouse, fronting to the Firth of Clyde, is a utiful Grecian building, erected in 1818, at an ex- se of £50,000. The Tontine Hotel, situated in one the principal streets, and containing a large public m, twelve sitting-rooms, and thirty bed-rooms, was t, in 1801, by 400 subscribers at L.25 each; the le expense being thus £10,000. There is also an ant building, in the character of an exchange, ch cost £7000, and contains, besides two spacious mbly rooms, a reading-room, to which strangers admitted gratuitously for six weeks. In Greenock re are two native banks, besides branches of several ers.

James Watt, the improver of the steam-engine, was n in Greenock in 1736; and an Institution for lite- y and scientific purposes, designed to serve as a nument to him, and termed the Watt Institution, been recently completed. The situation of the n, on the shore of a land-locked basin of the Firth Clyde, with the mountains of Argyllshire and Dun- tonshire rising on the opposite side, is very fine.

Amongst Scottish towns, *Aberdeen* ranks next to inburgh and Glasgow. It is situated in the county med from it, on a level piece of ground between the uths of the rivers Dee and Don, 110 miles from inburgh. Its external appearance produces a favour- e impression; the principal streets are straight and ular, and the buildings at once substantial and elo- nt, the chief material used in constructing them being roy granite found here in great abundance. New erdeen, or what is now generally called Aberdeen, close to the efflux of the Dee, the mouth of which ms its harbour; and Old Aberdeen, where the an- nt Cathedral and King's College are situated, is a nparatively small town, about a mile distant, on the k of the Don. The entire population is about 60,000. Aberdeen is a city of great antiquity. It became the t of an university by the erection of King's College Old Aberdeen, in 1495; Marischal College, in New erdeen, was added in 1593. By the recent reform s, it is a royal burgh of the first class, divided into tricts for municipal purposes, and returning one mber to Parliament. Aberdeen is at once a seat manufactures and a sea-port. There are four great uses engaged in the cotton manufacture, two in the ollen trade, and three in flax-spinning and the weav- of linen. Ship-building, iron-founding, comb-making, pe-making, and paper-making, are also carried on to great extent. The fisheries of the River Dee, and export of granite, are sources of considerable in- me. Of the exports for the year 1836, we may notice, indicating at once the extent and nature of the ricultural and manufacturing products of the dis- ct, the following items:—Flax manufactures, 30,482 rrel bulk; cotton manufactures, 16,336 do.; woollen nufactures, 20,043 do.; oats, 69,239 quarters; meal, ,375 bolls; sheep and lambs, 1407; pigs, 3034; but- , 9261 cwts.; eggs, 8120 barrel bulk; pork, 6006 ts.; salmon, 7757 do.; granite stones, 1736 tons. The ief imports are, coal, of which there was unloaded, ring the same year, 371,914 bolls; lime, cotton, flax, ol, wood, wheat, flour, salt, iron, whale-blubber, and scellaneous goods, consisting of groceries, &c. There re, in 1836, belonging to the port of Aberdeen, 360 ssels, tonnage 42,030, employing 3110 men.

Aberdeen is entered from the south by Union Street, elegant double line of buildings, a mile in length and enty feet wide, in the centre of which a ravine per- ded by a rivulet is crossed by a noble arch of one ndred and thirty-two feet in span, upon a rise of enty-two. King Street, which opens up the city from

colonial trade, which it still retains; but, during the last seventy years, it has chiefly been distinguished as a seat of manufactures. The weaving of lawns, cambrics, and similar articles, commenced in Glasgow in 1725. The advantages enjoyed by the city for the importation of cotton, in time gave a great impulse to that species of manufacture. In 1834, out of 134 cotton-factories existing in Scotland, 100 belonged to Glasgow, and the importation of cotton into that port amounted to 95,703 bales. In the weaving of this material, upwards of 15,000 power-looms, and 32,000 hand-loom weavers, were at the same time employed by the manufacturers of Glasgow. Of calico-printing establishments there are upwards of forty. It would be vain to attempt an exact enumeration of the less prominent features of the business carried on in Glasgow. The chief articles of importation, besides cotton, are sugar, rum, tea, tobacco, and timber. The chief articles manufactured or prepared, besides cotton goods, are sugar, soap, glass, iron, ropes, leather, chemical stuffs, and machinery. There were recently seven native banks, and several branches of other banks. During a year extending from a certain period in 1839, to a certain period in 1840, 5484 vessels, of 296,502 tonnage, arrived at the Glasgow harbour; the customhouse revenue of 1839 was £468,975, and the harbour dues of the twelvemonth ending August 31 of that year were £45,826. It is worthy of remark, that the Clyde was the first river in the elder hemisphere on which steam navigation was exemplified. A steam-vessel of three horse power was set afloat on the river in January 1812, by Mr Henry Bell of Helensburgh; and there were twenty such vessels on the Clyde before one had disturbed the waters of the Thames. In 1835 there were sixty-seven steam-vessels, of 6691 aggregate tonnage, connected with Glasgow, eighteen of which plied to Liverpool, Belfast, Dublin, and Londonderry. Within the last few years, the city has become a great centre of the iron trade, this metal being produced in the neighbourhood to an annual amount of not less than 200,000 tons. As a necessary consequence of the commerce and manufactures which flourish in Glasgow, the city has a vast retail trade in all the articles of luxury and necessity which are used by human beings. But no circumstance connected with Glasgow could give so impressive an idea of the height to which business has been carried in it, as the rapid advance and present great amount of its population. By the census of 1791, the inhabitants were 66,578; and by the first government census in 1801, they were 77,385. But these numbers have been increased in 1811, 1821, and 1831, respectively to 110,749, 147,043, and 202,426. As the increase is about 7000 per annum, the present amount (1841) is supposed to be fully 285,000—a mass of population which, at the time of the Union, could not have been dreamt of as likely ever to exist in any Scottish city.

The Cathedral, or High Church, is situated in the northern outskirts of the city, near the upper extremity of the High Street. The bulk of the existing building was constructed at the close of the twelfth century, in place of another which had been consecrated in 1136, but was destroyed by fire. It consists of a long nave and choir, a chapter-house projecting from the north-east angle, a tower and spire in the centre, and a crypt extending beneath the choir or eastern portion of the building. In the nave, termed the Outer High Kirk, was held the celebrated General Assembly of the Church, November 1638, by which Episcopacy was abolished and pure Presbytery replaced—the first great movement in the civil war.

The elevated ground, near the east end of the Cathedral, has been formed into an ornamental place of sepulture, under the appellation of the Necropolis. Since 1831, the Society of Merchants, its proprietors, have expended the sum of £6000 in laying out about twenty-four acres of ground in walks and shrubberies, and in connecting the spot with the opposite slope by means of a bridge across the intermediate rivulet.

[illegible] in the whole scheme as
[illegible]y creditable to the ci
[illegible] extent, command an
[illegible] country. They are
by numb[illegible] plots and excavation
already affection[illegible] busy in erecting it
memorials," all o[illegible], it may be mentio
fashioned according to certain regulations, wit
to general keeping and effect.

The College buildings are situated on the
of the High Street, about half-way between th
dral and the Trongate. They consist in a
double court; the front which adjoins to th
being 330 feet in length, and three storeys in
The whole edifice has a dignified and venera
pearance. A large piece of ground behind
lege is formed into a park or green, interspers
trees and hedges, and always kept in grass, to
by the students as a place of exercise or amu
In the College there are appointed profes
teachers of about thirty branches of scienc
logy, and polite literature. At the back of t
rior court stands the modern Grecian buildi
contains the Hunterian Museum. This is a la
lection of singular natural objects, coins, med
manuscripts, paintings, and relics of antiquit
nally formed by Dr William Hunter, the em
anatomist, and bequeathed by him to this un
at which he received his education. While the
confers professional education, popular instruct
tainable, under unusually advantageous circum
through the medium of the Andersonian Ins
an extensive school of science founded at the
the last century, and connected with which th
general museum, containing many curious obj
constantly open to the public.

The most attractive modern building in Gl
the Royal Exchange in Queen Street, a repos
structure, erected in 1829, as a point of assemb
the merchants in the western part of the cit
principal room is a large hall, supported by
row of columns, and used as a reading-roo
front of the Exchange consists of a magnific
tico, surmounted by a cupola; and, as the
is isolated, the other sides are also of decorativ
tecture. Altogether, this building, supported
of very elegant domestic structures of similar
proportions, impresses the mind of a stranger
thing signally worthy of a great city.

Since the Reform Act of 1832, Glasgow has
vilege of returning two members to Parliame
places of worship, charitable institutions, an
ciations of various kinds for public objects, a
numerous. A laudable zeal for the improve
education marks the city; and a normal school,
nary for the rearing of teachers—the first in th
—has been erected under the auspices of a
society.

The means of communication in connexi
Glasgow, are suitable to the character of the
one of the greatest emporia of commerce and m
ture in the world. Besides a river, navigable
sels drawing fifteen feet of water, and which g
means of a ready communication with the
shores of Britain, with Ireland, and with Ame
Forth and Clyde Canal, of which a branch e
Port-Dundas, in the northern suburbs, serves
vey goods and passengers to the eastern shore
island, while canals of less note connect the c
Paisley and Johnstone in one direction, and
great coal-fields of Monkland in the other. The
a railway, which traverses the same great c
by Garnkirk and Wishaw, and conveys passe
well as coal and goods. Another railway, co
the city with Kilmarnock, Ayr, and the port of
san, was opened in 1840. During the year in wh
sheet makes its appearance, a third railway,
by Falkirk and Linlithgo~ to Edinburgh, will be
Others are projected. [illegible]e steam communica

asgow and Liverpool, Dublin, and other Irish conducted on a scale which may be called The vessels are superb in magnitude, decora- power; and they sail frequently and rapidly. m intercourse between Glasgow and various Scotland, both for passengers and objects of also conducted on a great scale: among the uched at in the Clyde and to the south are k, Dunbarton, Dunoon, Rothesay, Arran, Gou- oon, and Ayr. Among the places to the north vessels sail regularly, are Inverary, Campbel- n, Staffa and Iona, Mull, Arisaig, Skye, Stor- and Inverness. In opening up markets for ighland produce, and introducing luxuries in hese vessels have also been of marked service, h that the value of property in those hitherto districts has experienced a considerable rise. ountry around Glasgow, particularly towards h, abounds in busy towns and villages, of the f which the most remarkable is *Paisley*, situated ewshire, on the banks of the small river Cart, les from the city above described. The external ace of this town is pleasing, and the streets are al composed of substantial buildings. It origi- om an abbey founded in 1160 by Walter, the he Stewarts, and of which considerable remains t. Paisley is a noted seat of the manufacture s, and also of cotton thread, gauzes, and velvets. own and Abbey parish, exclusive of the large of Johnstone, there were lately three cotton -mills, and seven or eight thread-mills; two om factories; six flour-mills; a calico-printing nany bleaching works and dye-houses; three es and two distilleries; several timber yards; eral iron and brass foundries; an alum and work, a soap work, and a tan-yard. An idea present extent of manufactures, in comparison at it was in the last age, may be obtained from , that, while the whole of the manufactures in ounted to £15,000, the annual computed value oods made in and around the town a few years s a million and a half sterling.

ey has been changed by the Reform Acts from of barony into a parliamentary burgh of the s, returning one member, divided into wards icipal purposes, and managed by sixteen coun- cluding a provost, four bailies, and a treasurer. though not the county town, the seat of the ourt, it is adorned by a large modern castellated , containing a jail, bridewell, and series of court-

A large and elegant structure, containing a -room, assembly-rooms, and other apartments service of the public, is in progress. Devoted habitants of Paisley are to the pursuits of busi- ey have long been honourably remarkable for of inquiry and a desire for intellectual improve- The population of Paisley, like that of Glasgow, erienced a very rapid advance: the inhabitants wn and surrounding parochial district, in 1821, ed to 47,003; in 1831, to 57,466.

ithstanding the inland situation of Paisley, its f communication are unusually facile and ample. hite Cart, navigable from its efflux into the the Sneddon in the outskirts of Paisley, pre- the advantages of a canal. A canal leaves the a suburbs of Glasgow, and, passing Paisley, ter- at Johnstone. Paisley is also benefited by the and Ayr Railway, which passes it.

enfrewshire, also, is situated *Greenock*, the sea-port of the kingdom as far as customhouse form a criterion, these having been, in 1834, 8 in gross amount. This town occupies a strip g ground facing towards the Firth of Clyde, at ance of twenty-four miles from Glasgow. In enteenth century it was a mere hamlet; now handsome town of about 30,000 inhabitants, ng harbours and quays of 2200 feet in extent, h belonged, in 1828, 219 vessels of 31,929 ns tonnage, and employing 2210 men. It is now, moreover, by virtue of the recent Reform Acts, a parliamentary burgh of the first class, returning one member of Parliament. The principal branches of commerce conducted in Greenock have reference to the East and West Indies, the United States, and British America, to which last it yearly sends out great numbers of emigrants. Sugar-baking and ship-building are other branches of industry carried on here to a great extent. The Customhouse, fronting to the Firth of Clyde, is a beautiful Grecian building, erected in 1818, at an expense of £30,000. The Tontine Hotel, situated in one of the principal streets, and containing a large public room, twelve sitting-rooms, and thirty bed-rooms, was built, in 1801, by 400 subscribers of L.25 each; the whole expense being thus £10,000. There is also an elegant building, in the character of an exchange, which cost £7000, and contains, besides two spacious assembly rooms, a reading-room, to which strangers are admitted gratuitously for six weeks. In Greenock there are two native banks, besides branches of several others.

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Amongst Scottish towns, *Aberdeen* ranks next to Edinburgh and Glasgow. It is situated in the county named from it, on a level piece of ground between the efluxes of the rivers Dee and Don, 110 miles from Edinburgh. Its external appearance produces a favourable impression; the principal streets are straight and regular, and the buildings at once substantial and elegant, the chief material used in constructing them being a grey granite found here in great abundance. New Aberdeen, or what is now generally called Aberdeen, is close to the efflux of the Dee, the mouth of which forms its harbour; and Old Aberdeen, where the ancient Cathedral and King's College are situated, is a comparatively small town, about a mile distant, on the bank of the Don. The entire population is about 60,000.

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in its course through Longford, Roscommon, and the King's County. All these bogs might be easily reclaimed, could they be drained; but that cannot be accomplished, as the Inny and the Shannon are kept up to their present level by the numerous eel-weirs which at present interrupt their course. There are also [illegible] bog in the western counties, and many [illegible] both in Ulster and Munster; but none of [illegible] as those above mentioned. It is remarkable, [illegible] withstanding the quantity of water contained in these extensive bogs, there arises from them no miasma injurious to health. This is attributable to the large portion of tannin they contain, which possesses so strong an antiseptic quality, that bodies plunged into a deep bog remain undecayed, the flesh becoming like that of an Egyptian mummy. It sometimes happens that a bog, overcharged with water during a rainy season, breaks through the obstruction which the drained and more solid part affords, and, rushing forward, overflows large portions of good land. This occurred in the year 1821, when the Bog of Clara, in the county of Westmeath, suddenly burst into the valley of the River Brusna, and totally destroyed many hundred acres of excellent land: a similar occurrence took place, to a large extent, a very few years since, in the county of Antrim.

Ireland is described as a thickly wooded country, not only by her early native writers, but by all those English authors who have given any account of the country, from the days of Giraldus Cambrensis, about A. D. 1185. Morrison (1596) and Davis (1605), mention the forests in which the poor Irish took refuge; and all the scenery of Spenser's *Fairy Queen* is drawn from the River Bandon, which he celebrates as the "pleasant Bandon, wood y-crowned," as it is to this day. Boate, in his Natural History, mentions the great extent of wood then standing; but not long did it so stand, for wherever Cromwell's army came, the forests were felled, and the country laid bare. In most cases, the bogs give ample testimony to the truth of these statements, some supplying large quantities of fir, which burns with a pleasant aromatic smell, and a flame so brilliant that it is often used in place of candles. In other bogs, only oak is dug up, and sometimes sallow, and yew of a great size, which takes a fine polish and is used for cabinet-work. There are still, in a few favoured spots, some remains of the ancient oak and ash woods, as at Killarney, at Glengariffe near Bantry, in Connemara, in some spots of the county of Wicklow, and in Donegal, near the beautiful but little Lough Van, where a few red deer are still to be seen. Near the mouth of the Suir, at the foot of the Knockmeledan Mountains, is a wood of the pine species, commonly called Scotch fir, of such size and hardness, that Mr Nimmo the engineer pronounced it to be equal to the best Memel timber, and used it in constructing the pier at Dunmore. Many noblemen and gentlemen have planted largely and with great success, their flourishing plantations giving promise that the country in a few years will again be furnished with trees.

Ireland possesses many large and remarkably fine rivers, several of which form lakes at certain points in their course, and fall into the sea at the head of spacious bays every way suitable for navigation. The principal rivers are the *Foyle* and the *Bann*, which flow into the Northern Ocean; the *Boyne*, the *Liffey*, and the *Slaney*, which empty themselves into the Irish Channel; the *Barrow* and the *Nore*, which, falling into the *Suir*, pour their united streams into the Bay of Waterford; the *Blackwater* and the *Lee*, which run southward, their embouchures being at Youghal and Cork; the *Shannon*, the *Gweebarra*, the *Erne*, the *Moy*, the *Main*, and the *Laune*, which flow into the Atlantic. Among inland lakes or loughs, the largest is *Lough Neagh* in Ulster, which exceeds in size any lake in the United Kingdom, its length being twenty miles by a breadth of from ten to twelve: its waters are discharged by the Bann.

[illegible] IT RE.—MINERALOGY.

[illegible] lies w[illegible]rd into the Atlantic, is [illegible] has b[illegible]ated, by deep bays, t[illegible] [illegible] ies, which have hith[illegible] [illegible] boisterous ocean to w[illegible] are exposed. The rock which forms the [illegible] bottom of these bays, is generally composed of secon lary or carboniferous limestone, while the jecting promontories to the north and south of are composed, for the most part, of primary or t sition rocks, and particularly of granite, mica-s quartz rock, grawacke, and old red sandstone glomerate.—In Ireland, the coast is mostly moun ous, and the interior flat. Thus, we find the moun of A trim on the east; of Derry and Donegal on no -west coasts; those of Sligo and Kerry west so -west. The slate districts of Cork and Wate the south and south-east, while the mountai low, and those still higher ones of Louth are situated on the eastern coast. The int island is, generally speaking, composed of tly swelling grounds, covered with rich and f soil. This peculiar conformation of the su has been the origin of the great number of rivers which the Irish coast abounds. They have their so in the neighbouring mountains, whence they directly to the sea. The flatness of the interior of land has been the probable cause of those vast a mulations of alluvial matter called *escars*. They sibly originated at a period when the country w least partially submerged, from eddies formed by dulations on the surface. The origin of the great t of bog found so generally in the flat country, ma attributed to the water pent up, as we even now it, above the level of the dry country, by gravel which form a continuous ridge, though not of e height, round the edge of the bog. The central dis of Ireland contains upwards of one million of acr bog, comprehended between Wicklow Head and way, Houth Head and Sligo.

A vast tract of limestone extends in an almost broken line from the north of Cork to the sou Fermanagh, with an intermixture towards the eas coast of clayslate, grawacke, and grawacke-slate, veins of granite interspersed, as is the case in the e ties of Down, Armagh, and Wicklow. The sout coast is composed of limestone and old conglome with red, purple, and grey clayslate, which may be tinctly seen along the shores of Cork and Water In the south-western coasts are large tracts of formation; while the western are formed of gra carboniferous limestone, including the lower limest calp or black shale series, and the upper limest with a tract of the coal formation. There are al Galway, Mayo, and Sligo, tracts of mica-slate, qu rock, yellow sandstone, and conglomerate. The n ern division, consisting of the counties of Donegal Derry, is chiefly mica-slate, with an intermixtur the northern part of Donegal, of granite, quartz r and primary limestone; while the county of Antri composed of tabular trap. The counties in which is worked are Carlow, Kilkenny, Donegal, Lime Tyrone, and part of Tipperary. Ireland is ric minerals, and contains gold, silver, though not in l veins, as well as copper, lead, coal, and sulphur. quarries also produce a variety of beautiful marble the black marble of Kilkenny, the green of Gal and the many-coloured of Fermanagh. The qua of Killaloe and of Valentia, in the county of K afford large-sized excellent slates, now coming e sively into use. Nor should the inexhaustible su of extremely fine building-stone which the hills a of Dublin afford, be left [illegible] ientioned. Of this gra the particular vein which [illegible] worked at the coast vi of Bullock, has been found to withstand the wash o sea better than any other kind of stone, and is e sively reserved for the building of the lower stor those lighthouses which are exposed to violent sea

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DESCRIPTION OF IRELAND.

large and important section of the United King- is geographically described as an island situated west of Great Britain, from which it is divided strait, called at different places St George's Chan- the Irish Sea, and North Channel, the Atlantic ing the boundary on the other sides. Of a more pact form than Great Britain, it is nevertheless rated by a considerable number of deep bays and ions, which give it an outline upon the whole irre- r. Besides enjoying this advantage for internal gation, it may be considered as more favourably ted for foreign commerce than either England or land. It lies between 51° 19′ and 55° 23′ north ude, and 5° 19′ and 10° 28′ of west longitude from nwich; but the greatest length, from Brow Head e county of Cork, to Fair Head in the county of ım, is 306 miles, and the longest transverse line, ose similar points in the counties of Mayo and h, 182 miles. The entire area appears, from the t and best measurement, to include 31,874 square s, or 20,379,608 acres.

land is divided into four provinces, namely, LEIN- , on the east; MUNSTER, on the south; ULSTER, e north; and CONNAUGHT, on the west: these are ivided into 32 counties, 252 baronies, and 2348 hes. For an account of the ecclesiastical divisions civil polity, we refer to the CONSTITUTION AND URCHES OF THE BRITISH EMPIRE.

In superficial character, Ireland may be called a hilly or mountainous country, since there are few spots where the view is not terminated by lofty hills or mountain scenery. Generally speaking, the mountains stand in groups, and are more or less detached from each other; but in some districts they form ridges of great extent. The *Mourne* range, in the county of Down, lies west and east, ending with *Slieve Donard*, which rises 2809 feet above the level of the sea, and is the highest of the northern mountains. The *Slieve Bloom* mountains, placed in nearly the centre of the island, run north and south, intersecting the King and Queen's Counties: in this range, sometimes called the *Ard na Erin*, or Heights of Ireland, the rivers Nore, Barrow, and Suir, commonly called by the country people the Three Sisters, take their rise. In Connaught there is a fine range, of which the *Twelve Pins* form a part; and in Munster, a ridge of varied height extends from Dungarvon, in the county of Waterford, across the kingdom, into the county of Kerry. It may be here observed, that wherever the Irish term *slieve* is applied to a mountain, it expresses that that mountain forms part of a range. The highest mountain in Ireland is *Carran Tual*, at Killarney, being 3410 feet above the level of the sea. *Mount Nephin* and *Croagh Patrick*, two conspicuous mountains in Mayo, are respectively 2639 and 2499 feet high. Some, however, of the counties, though possessing a very varied surface, can only boast of hills, as Armagh, Monaghan, Cavan, and Louth, while others are in general very level: Meath, Kildare, Longford, and Galway, are of the latter character. A distinguishing peculiarity of the country, whether in its hilly or more level districts, is its generally green appearance, a circumstance arising from its fertile soil and moist and temperate climate, and which has led to its receiving the appellations of the "Emerald Isle" and "Green Isle of the Ocean"—names sung by its poets, and repeated with affection by its natives in all quarters of the world.

In the lower and less reclaimed portions of the country, there are various extensive bogs or morasses, which disfigure the beauty of the scenery, and are only serviceable in supplying fuel to the adjacent inhabitants. The chief of these morasses is the Bog of Allen, which stretches in a vast plain, across the centre of the island, or over a large portion of Kildare, Carlow, and the King and Queen's Counties. In this bog, the beautiful River Boyne takes its rise, flowing thence north-eastward to the sea at Drogheda, on the borders of the county of Louth: much of this bog has been drained and brought into tillage, and there is good reason to think that in time the whole of it will be reclaimed. Along the banks of the River Inny, which, rising in Lough Iron, in the county of Westmeath, crosses Longford and falls into the Shannon, are large tracts of deep wet bog, only exceeded in dreariness by that which for miles skirts the Shannon,

in its course through Longford, Roscommon, and the King's County. All these bogs might be easily reclaimed, could they be drained; but that cannot be accomplished, as the Inny and the Shannon are kept up to their present level by the numerous eel-weirs which at present interrupt their course. There are also many tracts of bog in the western counties, and many detached bogs both in Ulster and Munster; but none of such great size as those above mentioned. It is remarkable, that notwithstanding the quantity of water contained in these extensive bogs, there arises from them no miasma injurious to health. This is attributable to the large portion of tannin they contain, which possesses so strong an antiseptic quality, that bodies plunged into a deep bog remain undecayed, the flesh becoming like that of an Egyptian mummy. It sometimes happens that a bog, overcharged with water during a rainy season, breaks through the obstruction which the drained and more solid part affords, and, rushing forward, overflows large portions of good land. This occurred in the year 1821, when the Bog of Clara, in the county of Westmeath, suddenly burst into the valley of the River Brusna, and totally destroyed many hundred acres of excellent land: a similar occurrence took place, to a large extent, a very few years since, in the county of Antrim.

Ireland is described as a thickly wooded country, not only by her early native writers, but by all those English authors who have given any account of the country, from the days of Giraldus Cambrensis, about A. D. 1185. Morrison (1596) and Davis (1605), mention the forests in which the poor Irish took refuge; and all the scenery of Spenser's *Fairy Queen* is drawn from the River Bandon, which he celebrates as the "pleasant Bandon, wood y-crowned," as it is to this day. Boate, in his Natural History, mentions the great extent of wood then standing; but not long did it so stand, for wherever Cromwell's army came, the forests were felled, and the country laid bare. In most cases, the bogs give ample testimony to the truth of these statements, some supplying large quantities of fir, which burns with a pleasant aromatic smell, and a flame so brilliant that it is often used in place of candles. In other bogs, only oak is dug up, and sometimes sallow, and yew of a great size, which takes a fine polish and is used for cabinet-work. There are still, in a few favoured spots, some remains of the ancient oak and ash woods, as at Killarney, at Glengariffe near Bantry, in Connemara, in some spots of the county of Wicklow, and in Donegal, near the beautiful but little Lough Van, where a few red deer are still to be seen. Near the mouth of the Suir, at the foot of the Knockmeledan Mountains, is a wood of the pine species, commonly called Scotch fir, of such size and hardness, that Mr Nimmo the engineer pronounced it to be equal to the best Memel timber, and used it in constructing the pier at Dunmore. Many noblemen and gentlemen have planted largely and with great success, their flourishing plantations giving promise that the country in a few years will again be furnished with trees.

Ireland possesses many large and remarkably fine rivers, several of which form lakes at certain points in their course, and fall into the sea at the head of spacious bays every way suitable for navigation. The principal rivers are the *Foyle* and the *Bann*, which flow into the Northern Ocean; the *Boyne*, the *Liffey*, and the *Slaney*, which empty themselves into the Irish Channel; the *Barrow* and the *Nore*, which, falling into the Suir, pour their united streams into the Bay of Waterford; the *Blackwater* and the *Lee*, which run southward, their embouchures being at Youghal and Cork; the *Shannon*, the *Corrib*, the *Erne*, the *Moy*, the *Main*, and the *Lagan*, which flow into the Atlantic. Among the lakes or loughs, the largest is *Lough Neagh* in Ulster, which exceeds in size any lake in the United Kingdom, its length being twenty miles by a breadth of from ten to twelve: its waters are discharged by the

GEOLOGICAL STRUCTURE.—MINERALOGY.

Ireland stretches westward into the Atla
is indented, as has been stated, by deep b
tected by jutting promontories, which have
withstood the force of the boisterous ocean
they are exposed. The rock which forms
or bottom of these bays, is generally compos
secondary or carboniferous limestone, while
jecting promontories to the north and soutl
are composed, for the most part, of primary
sition rocks, and particularly of granite, m
quartz rock, grawacke, and old red sandst
glomerate. In Ireland, the coast is mostly s
ous, and the interior flat. Thus, we find the n
of Antrim on the east; of Derry and Donegi
north-west coasts; those of Sligo and Kerry
south-west. The slate districts of Cork and W
form the south and south-east, while the mou
Wicklow, and those still higher ones of L
Down, are situated on the eastern coast. Th
of the island is, generally speaking, compose
or gently swelling grounds, covered with rich
ful soil. This peculiar conformation of th
has been the origin of the great number of ri
which the Irish coast abounds. They have thei
in the neighbouring mountains, whence t
directly to the sea. The flatness of the interi
land has been the probable cause of those v
mulations of alluvial matter called *escars*.
sibly originated at a period when the counti
least partially submerged, from eddies forme
dulations on the surface. The origin of the gr
of bog found so generally in the flat country
attributed to the water pent up, as we even
it, above the level of the dry country, by gra
which form a continuous ridge, though not
height, round the edge of the bog. The centr
of Ireland contains upwards of one million o
bog, comprehended between Wicklow Head
way, Houth Head and Sligo.

A vast tract of limestone extends in an al
broken line from the north of Cork to the
Fermanagh, with an intermixture towards th
coast of clayslate, grawacke, and grawacke-s
veins of granite interspersed, as is the case in
ties of Down, Armagh, and Wicklow. The
coast is composed of limestone and old cong
with red, purple, and grey clayslate, which m
tinctly seen along the shores of Cork and W
In the south-western coasts are large tract
formation; while the western are formed o
carboniferous limestone, including the lower l
calp or black shale series, and the upper l
with a tract of the coal formation. There a
Galway, Mayo, and Sligo, tracts of mica-slat
rock, yellow sandstone, and conglomerate. T
ern division, consisting of the counties of Do
Derry, is chiefly mica-slate, with an interm
the northern part of Donegal, of granite, qu
and primary limestone; while the county of
composed of tabular trap. The counties in w
is worked are Carlow, Kilkenny, Donegal,
Tyrone, and part of Tipperary. Ireland i
minerals, and contains gold, silver, though no
veins, as well as copper, lead, coal, and sulph
quarries also produce a variety of beautiful m
the black marble of Kilkenny, the green o
and the many-coloured of Fermanagh. The
of Killaloe and of Valentia, in the county
afford large-sized excellent slates, now comm
sively into use. Nor should the inexhaustib
of extremely fine building-stone which the h
of Dublin afford, be left unmentioned. Of thi
the particular vein which is worked at the co
of Bullock, has been found to withstand the w
sea better than any other kind of stone, and
sively reserved for the building of the lower
those lighthouses which are exposed to violent

e kingdom, standing sometimes singly, but most com-
only in conjunction with one or more of the above-
entioned relics of pagan times. Tradition says, that
rmerly the people collected round such stones for
orship, which is confirmed by the common expression
Irish of "going to the stone," for going to church or
apel. These stones are conceived by many to have
ven rise to the carved stone cross found in various
urchyards, and of which one of the finest specimens
to be seen at Monasterboyce, in the county of Louth.
There are several kinds of tumuli remaining, of which
e Irish names declare the original object. The *Lios*
r *Lis*, which signifies a fortified house, was an artificial
ill, sometimes approaching in shape to an ellipse, with
flat top, and an earthen breastwork or rampart thrown
ound the little plain on the summit, where was placed
e dwelling, usually protected by a strong wattled
ailing, as is now customary among the Circassians.
he *Duns* or *Doons* were places of strength, always
rched on a rocky bold situation, and fenced by a
round wall of extremely large stones, which wall forms
ne of the distinctions between the dun and the lis.
he *Rath* signifies a village or settlement: these abound
all parts of the island, and are of various sizes, stand-
g sometimes singly, sometimes so as to form a chain
f posts; and frequently may be seen a large head rath,
here the chieftain lived, and its smaller dependent
aths, on which his retainers dwelt.

Amongst the earliest and peculiar antiquities of Ire-
and, are the low *Stone-roofed Buildings*, with high
dge-shaped roofs: of these, a few instances still exist
Kells, Kildare, Ardmore, and Killaloe. The most
markable relics of the olden times of Ireland are the
fty *Round Towers*, of which, perfect and imperfect, one
undred and eighteen have been enumerated in various
arts of the kingdom. They are built with a wonderful
niformity of plan. They are all circular, of small dia-
eter, and great altitude. In most of them the door
at some height from the ground; small loop-hole
indows, at distances in the sides, give light to the
aces where the different floors once were; and gene-
ally there were four larger-sized windows round the
p, immediately below the roof, which is high and
one-shaped. There are, however, two or three towers,
which it does not appear that there ever were any
indows round the top. Of the excellence of the
asonry, a proof was given some years ago by the
wer of Mahera, which, in consequence of having been
ndermined, was blown down, and lay, at length and
ntire upon the ground, like a huge gun, without break-
g to pieces, so wonderfully hard and binding was the
ement with which it had been constructed. Various
eories have been offered as to the purpose for which
ese mysterious buildings were erected; the only clear
oint seems to be that they were religious, as they are
lways placed near churches. They vary in height
rom 35 to 120 feet; the internal diameter from 10
16 feet, and the outer circumference from 46 to 56
et. Their tapering shape forms one of their most
arked characteristics.

Ancient weapons and golden ornaments are from
ime to time dug up in all parts of Ireland, as bronze
words, exactly like those discovered at Carthage and on
he field of Marathon. Multitudes, also, of spear-heads of
ll sizes, made of the same mixed metal, and curiously
haped bronze rings, have from time to time been dis-
overed, the use of which had long been a desidera-
um to antiquaries, when a recent event unexpectedly
hrew light upon the subject, and confirmed the con-
ecture of Sir William Betham as to their having been
urrent money. A variety of golden articles have been
iscovered in many parts of the country, such as semi-
unar shaped disks, formed of thin plates of pure gold;
orques, or large twisted collars for the neck; armlets,
rooches, rings, pieces of gold, bell-shaped, but solid
nd fastened together, the use of which has not been
ade out; and some rings of the same shape as those
f bronze, which have been proved by Sir William
Betham to have been used as money.

the middle classes, being of Saxon descent, are not much different from the same classes in Great Britain; but, in as far as any difference exists, it may be said to consist in a tincture of the Celtic, or genuine Irish character, as just described. This admixture is perhaps that which gives the educated Irish so much artistic talent, whether to be exhibited in literature or the arts, while some of the more peculiarly English characteristics are less conspicuous.

Limiting the consideration of the social state of Ireland to what is peculiar to it, we may first advert to a conspicuous practice of the landowners—*absenteeism*. By absentees are not meant those noblemen, who, being Englishmen, have also large possessions in this country, and whose estates (with some glaring exceptions) are usually well and justly managed; but those sons of Erin who prefer living in any other country to remaining in their own, although it is at home only that a man receives his just meed of respect. This system of absenteeism has led to that of *middlemen*, who hold large tracts of land from the head landlord, and relet this land at a much increased rent to farmers; these, again, set to a third set of under-tenants at rack-rents; and this lowest grade of tenantry divide their small farms among their sons, thus creating a race of farming poor, who are unable to till their holdings properly, and miserably increasing a population raised but a step above the pauper. There is perhaps no more thriving person than the *farming-landholder*, who, contented with his condition, rises with his labourers, holds his own plough, and superintends the management of his farm; but the state of the *cottier* is often far from being a happy one. The discomfort of this class may be said to arise chiefly from three causes—low wages, high rents, and, most of all, from the want of steady employment. The too great subdivision of land, as will be shown, in treating of the condition of the peasantry in the provinces, is another cause of the general poverty and want of comfort of the cottier. Under the excitement of war prices and the free trade in corn with Great Britain, agriculture advanced rapidly, and, consequently, so did the demand for labour; land rose in value, lessees were tempted to realise profit-rents by subletting their farms; and thus a class of middlemen was created, by whom the land was let in still smaller divisions, and at extreme rents. This system was an absolute bar to the encouragement which might have been given to the tenantry by the proprietors of estates. The occupying landlord pays a higher rent to the middleman than does the middleman to the proprietor, because the middleman exacts as much as he can get, without any reference to the future situation of the tenant: but the landlord has different feelings—he looks forward, and considers the reversionary interest which he has in keeping his tenant in prosperity, and his land in a state to yield a remunerating profit.

The habits of getting credit frequently at an advance of 50 per cent., of resorting to pawnbrokers, and of forming early marriages, contribute to the impoverishment of the labouring classes in Ireland. The poorer the individuals are, the more eager are they for wedlock; even the very beggars intermarry. It must, however, be admitted as some excuse, that early marriage is much encouraged by the Romish priesthood; and in fairness it must be added, that this practice contributes exceedingly to the morality of the lower classes. The superstitious regard to *wakes* and funerals, which has been handed down from ancient times, is often a deplorable drain on the slender resources of the peasant.

In considering the character of the Irish peasantry in general, it is refreshing to see some noble traits standing out in full relief against the darker shades. The Irish people are of acknowledged bravery, proverbial hospitality, affectionate to their parents and aged relatives, charitable to the mendicant, and evincing in many places, even under extreme distress, a decency of feeling, which renders them averse to soliciting eleemosynary assistance. The women, generally speaking, are modest and irreproachable in their conduct; and it added, that, notwithstanding the crime and w ness which oppress the country, the poor Irish from some species of vice which are but too in other countries. During the hay and corn of England and Scotland, the services of the bourers are very important. They are general well-conducted, and inoffensive; labouring h living hard, that they may bring their earnin to pay the rent of their little farm or dwell *spalpeen*, or harvest-man, carries home from eight or ten pounds; to do which, he is content away, almost to starve himself. There is reaso fore, to hope, that under a better state of th national character would rise to a standard muc than it has yet attained; and improvement ma ably be expected from the happy change wroug years by the temperance societies, and espe the Roman Catholic clergyman, the Rev. T. of which evidence was given in the Ballinaslo 1840, where, instead of twelve hogsheads, the usually disposed of, it is believed that there w eight gallons of whisky consumed.

The last, but by no means most miserabl Ireland, is that of the common *vagrant*. some are beggars by profession; some are obli loss of employment, to become what are called and others are mendicants for a time only, their husbands are reaping the harvests in at which time it is customary to lock up the h the wife and children *walk the world* until th ler returns with his little hoard of hard-earne It may be asserted, that in every district of excepting some peculiarly circumstanced po Ulster, there is a feeling of respect towards me which tends to support and perpetuate it. tenants of the cabins receive the wanderers, single or in groups; and carrying, as these bedding along with them, a warm corner is them, even in the only room possessed. " humblest sort," say they, " that are really goo The vagrants that frequent fairs, markets, holy wells, and other places of religious or pl resort, are better off than the other poor. A able evidence declared to the commissioner Poor-Law Inquiry in the county of Meath, beggars at fairs were " as jolly a set as ever his life;" and in more places than one, it was the commissioners that the beggars were bette the tradesmen or labourers.

Hitherto, the usual methods of supporting th poor have been congregational collections, tions, very extensive private charity, and of l the application of the resources of the Mendi ciation; but the inefficiency of these means l mately led to the establishment of a *Poor-La* neral object of which is to relieve the destituti country. Under this system, assistance is pr be afforded to persons only in the workhouse respective parochial unions, which are now throughout Ireland. It is calculated that a workhouses, placed in the centre of so man and capable of containing each from four to e dred persons, will be sufficient to accommodat are likely to apply for admission. For the l gulation of the system, it was enacted, that a guardians should be annually elected in each number according as the commissioners sha the same guardians being eligible for the su year. It appears that, so far as the poor-law as yet brought into operation, it is imperfect not relieved the districts in which it has bee into effect from the annoyance of mendicity, as there is no compulsory law for retaining in the poorhouses; they therefore leave then sure, to follow the more agreeable course of b the streets. Until such enactment be passed, it would seem, will be subject to a severe ta support of the poor-law system, while at the s

odation of a large population. In point of size, Dublin occupies a place between Edinburgh and London, and its appearance never fails to surprise and delight the stranger. In external aspect, it is essentially an English town, being built of brick in a neat and regular manner, but abounding in a class of elegant public structures of stone, which resemble the more substantial embellishments of Paris and other continental cities. The river, flowing from west to east, divides the city into two nearly equal portions, and is a striking feature in the general plan. The leading thoroughfares of the city are easily comprehended. First, from east to west, there is the double line of houses and quays bordering upon the river, the lower part of which forms a harbour, and is crowded with vessels. Crossing this line at right angles, is the great line formed by Sackville, Westmoreland, and Grafton Streets, the first and second of which are connected by Carlisle Bridge, the lowest in a range of eight or nine which span the river at various distances from each other, parallel to the quays, on the south side of the river, there is a shorter arterial line of great importance, formed by College Green, Dame Street, Castle Street, and Thomas Street, being terminated to the east by the buildings of the University. Though the ancient part of the city occupies the south bank of the river, there is a portion of the mean and elegant on both sides; the streets and squares of the wealthy being here, contrary to the usual rule, in the north-east and south-east districts. All the great lines are formed by houses of lofty and elegant proportions, chiefly devoted to commerce; and perhaps no city can present a more splendid series of shops and warehouses. Sackville Street, a hundred perches in length and six in width, with a noble monumental pillar in the centre, and some of the finest public buildings in the world leading it to their effect, must impress every one as something worthy of a great city. The spaciousness of several of the squares in the aristocratic districts is equally impressive. Merrion Square is half, and St Stephen's Green nearly a whole mile, in circumference, the latter containing seventeen acres of pleasure-ground in the centre.

Dublin.

On first walking into the streets of Dublin, the stranger is apt to see, in the throng of carriages and foot-passengers, nothing more than what he expects to find in all large cities. He soon observes, however, that, besides the luxurious class who occupy the better kind of vehicles, and the busy well-dressed crowd who move along the foot-ways, there is a great multitude of mean and mendicant figures, such as are only to be found in a small proportion in other cities. This is the very first peculiar feature which the stranger detects in Dublin, and it is an unfortunate one. It is explained when we learn, that, of the large population of Dublin—supposed to approach three hundred thousand—fully three-fourths are beneath what is recognised in Britain as the middle rank. Thus the most respectable streets in Dublin, and the most elegant figures which appear in them, seem isolated in the midst of penury and meanness.

The public buildings of Dublin boast an elegance much above what might be expected from the general

Ecclesiastical Antiquities.—Under this head rank those buildings which may be considered as the most ancient, after the Pagan remains, and which bear a peculiar character, differing from that of any extant elsewhere. Of these but few are now in existence. The stone-roofed church of St Doulagh's, near Dublin, belongs to the earliest date; its plan and style are equally uncommon. The latter seems to have been a rude approach to the oldest Norman; it is low, and of great strength; the church, divided by a low-browed arch, seems to have had a small choir and a somewhat larger nave. There are also, strangely disposed, at various heights, small chambers, apparently for the residence of the clergy. A part of the building is used as the parish church; and the old tower has borne the addition of a belfry, so excellent was the mason work. The beautiful and curious ruin at Cashel, called *Cormack's Chapel*, is Norman in character, and was probably the cathedral of that diocese previous to the English invasion. It is considered to have been built in the tenth century by Cormac, who was both king and archbishop. He died about A. D. 990. It is to be observed, that both here and at St Doulagh's, are crypts placed *over* the churches—a peculiarity known in Ireland only; the crypts in all other countries being underneath. In this very marked Irish-Norman style, there exist a few remains at Aghadoe near Killarney, at Clonathen in the county of Wexford, and near Bannow in the same county, in an ancient town, which having been, time out of mind, overwhelmed by the blowing sand from the coast, has only within a few years been discovered, but, protected by the sand, is in a high state of preservation. The peculiar character which marks these buildings, proves them to be examples of the Irish style subsequent to the age of the towers, and previous to that brought in by the British invaders. Ireland cannot boast of any ecclesiastical buildings of great richness or beauty; but there are some of respectable appearance. The two cathedrals of the capital, St Patrick's and Christ-church, are at least elegant in the interior. The large cathedral of Galway, and that of Limerick, are both handsome buildings, as is the cathedral of Kilkenny. These are all in good order, and in daily use. There are numberless ruins of monasteries, abbeys, knights' preceptories, and churches, of which the chief are—*Kilcooney Abbey*, in the county of Galway; *Corcomroe*, in Clare, the finest ruin in Ireland; *Holy Cross*, in Tipperary; the *Old Cathedral*, on the Rock of Cashel; *Dunbrody* and *Tintern Abbeys*, in Wexford; *Jerpoint*, in Kilkenny; and *Lusk*, in the county of Dublin. Kilcooney and Lusk are remarkable for their basso-relievos in stone, which bear a degree of resemblance to the Egyptian hieroglyphics. Many of these still retain fragments of their former ornaments of fretted stone work—Holy Cross in particular.

Military Antiquities.—The traveller in Ireland must be struck with the vast numbers of small castles, which crowd the whole country. They chiefly bear date about the reign of Elizabeth, by whose orders they were raised, as strongholds to overawe the wild Irish. They are usually high and square, with towers at each corner. Besides these fortalices, there are ruins of very large castles, so customarily attributed to King John, as to show that they were built in the early times. Of these the extensive ruin at Trim, in the county of Meath, affords a fair example, as being one of the largest, and formerly the residence of the viceroy or chief-governor. Parliaments were held within its walls, and money minted there as late as Charles I. A few of the ancient castles belonging to the old nobility, still continue to be inhabited, as *Malahide*, Lord Talbot's de Malahide, and *Howth*, the Earl of Howth's, both in the county of Dublin; *Strokestown*, the residence of Earl Count; *Portumna Castle*, on the Shannon, that of Lord Clanricarde; *Killaloe Castle*, the seat of the Marquis of Downshire.

[illegible]

[illegible] of Ireland, and contains the [illegible] Wexford, Carlow, Kilkenny, Kildare, Queen's County, King's County, Westmeath, and Longford, t forming a large tract of country on the east si island, and having Dublin at a central poin coast. The scenery of Leinster is much vari county most remarkable for picturesque beau of Wicklow, a short way south of Dublin; the hi and valleys are here rich in natural wood, and, by an extensive prospect of the ocean, can l exceeded in beauty. The principal points of i for tourists are Lough Bray, a woody ravine Dargle, and the Vale of Avoca, which is one ous piece of sylvan pleasure-ground. Wex farther south, may also, to a considerable e described as a picturesque and fertile coun though the county of Meath is for the most and tame, except along the banks of the B Blackwater, it can boast there of some sp deeming beauty, as an example of which, *B* the beautiful demesne of Gustavus Lamb may well be mentioned; and in a large porti county the quantity of wood and the rich h give an almost English character to the l Westmeath is remarkable for expansive lake the dry gravelly hills which give variety to it The Queen's County, though a good deal disf bog, yet boasts, at Abbeleix and Dunmore, stretch of magnificent natural oak wood. Th ing part of Leinster cannot be considered i or peculiar in its general features. The King contains the greatest portion of the flat flo the eastern side of the Shannon; towards where the Slieve Bloom Mountains terminate some fine scenery, especially about the anci of Leap.

Leinster may be considered as much super other provinces with respect to agriculture; parts of Carlow, Kildare, and Wexford, are in a manner approaching in skill to that of th tural districts of England and Scotland. implements, rotation of crops, and the indu which manure is collected and composts manu there is a great and increasing improvement. societies, ploughing matches, and premiums fo better breeds of cattle, have greatly tended t creasing prosperity; and they only who have what these districts were previous to the U appreciate the amelioration which has since tal

In Kilkenny and its vicinity, the blanket t carried on to some extent, but latterly it has very declining state. Near Dublin are some paper manufactories, and in the county of M large flax-mill. Generally speaking, however, but few manufactures in Leinster. There is chief towns a considerable export of agricult duce.

The counties of Wicklow and Wexford e industrious and thriving population; and be dustrious, the people are able to pay, from superior to those of other districts, rents whi be intolerable in other parts of Ireland. The peasantry are reckoned the finest in the world proverbial for their handsome features and fin profiles, and still more so as being a respectf and well-conducted people. The county of remarkably fertile; but being less subdivided, fore less populous than any other part of Irel sidering the richness of its soil. The same p as that in Wicklow and Wexford, though per smaller degree, prevails in Kildare, Carlow, Queen's County. One of the chief causes of sperity is, that a large portion of the populatio money payments for their daily labour, and that the *cottier* and *con* or *corn acre* systems less resorted to. The wages of Leinster are shilling a-day in summer, and in winter fro pence to tenpence, without diet. The aver for arable land is from £1 to £1, 10s., and for land from £2 to £3 per acre. The general d

dition of a large population. In point of size, Dub- occupies a place between Edinburgh and London, d its appearance never fails to surprise and delight stranger. In external aspect, it is essentially an glish town, being built of brick in a neat and regular nner, but abounding in a class of elegant public ctures of stone, which resemble the more substan- embellishments of Paris and other continental ies. The river, flowing from west to east, divides city into two nearly equal portions, and is a strik- feature in the general plan. The leading thorough- es of the city are easily comprehended. First, from t to west, there is the double line of houses and ays bordering upon the river, the lower part of which rms a harbour, and is crowded with vessels. Cross- this lies at right angles, is the great line formed Sackville, Westmoreland, and Grafton Streets, the st and summit of which are connected by Carlisle idge, the lowest in a range of eight or nine which an the river at various distances from each other. rallel to the quays, on the south side of the river, re is a shorter arterial line of great importance, med by College Green, Dame Street, Castle Street, d Thomas Street, being terminated to the east by the ldings of the University. Though the ancient part the city occupies the south bank of the river, there a portion of the mean and elegant on both sides; the vels and squares of the wealthy being here, contrary the usual rule, in the north-east and south-east dis- cts. All the great lines are formed by houses of ty and elegant proportions, chiefly devoted to mer- rce; and perhaps no city can present a more lendid series of shops and warehouses. Sackville reet, a hundred perches in length and six in width, th a noble monumental pillar in the centre, and some the finest public buildings in the world lending it eir effect, must impress every one as something rthy of a great city. The spaciousness of several of e squares in the aristocratic districts is equally impres- re. Merrion Square is half, and St Stephen's Green arly a whole mile, in circumference, the latter contain- g seventeen acres of pleasure-ground in the centre.

Dublin.

On first walking into the streets of Dublin, the ranger is apt to see, in the throng of carriages and ot-passengers, nothing more than what he expects find in all large cities. He soon observes, however, at, besides the luxurious class who occupy the better nd of vehicles, and the busy well-dressed crowd who ove along the foot-ways, there is a great multitude mean and mendicant figures, such as are only be found in a small proportion in other cities. This the very first peculiar feature which the stranger tects in Dublin, and it is an unfortunate one. It is plained when we learn, that, of the large population Dublin—supposed to approach three hundred thou- nd—fully three-fourths are beneath what is recog- sed in Britain as the middle rank. Thus the most spectable streets in Dublin, and the most elegant gures which appear in them, seem isolated in the idst of penury and meanness.

The public buildings of Dublin boast an elegance uch above what might be expected from the general

character of the city. In sailing up the river, the eye is first attracted by the Customhouse, a large and splendid edifice in the well-known taste of the Adams, surmounted by a dome, and very happily situated upon the north quay. The Post-Office, in Sackville Street, is in that graver form of the Grecian style which has more recently come into favour, extending above two hundred feet in front, with a noble portico surmounted by a pediment. The simultaneous starting of the mail-coaches at a certain hour every evening from the court of this building, is one of the sights of Dublin. Opposite to it is a pillar in honour of Nelson, surmounted by a figure of that hero. At the upper extremity of Sackville Street is the Lying-in Hospital, a beautiful building, with which is closely connected the more celebrated Rotunda, together with an extensive plot of ornamental ground. The Four Courts—also a most superb structure—overlooks the river at a point considerably removed to the west, and completes the list of remarkable buildings in the northern division of the city. To the south of the river, the objects worthy of especial notice are more numerous. The buildings of the University (founded by Queen Elizabeth in 1592) occupy a conspicuous situation on the great transverse line of streets which has already been mentioned. Beneath an elegant Grecian front three hundred feet in length, an archway gives admission to a succession of spacious squares, chiefly composed of brick domestic buildings, and containing a theatre for examinations, a museum, a chapel, a refectory, a library, and other apartments necessary for the business of the institution. In the museum is preserved an ancient harp, generally represented as that of Brian Boroimhe, a famous Irish king of the tenth century. There are usually about two thousand students in attendance at the University. Divided from this building only by the breadth of a street, is the Bank of Ireland—formerly the place of assembly of the Irish Houses of Parliament. The deep colonnaded front of this building is one of the most beautiful pieces of architecture, not only in the British dominions, but in the world: it carries a charm like a fine picture. The hall where once the Commons of Ireland assembled—where the eloquence of a Grattan, a Curran, and a Flood, was once heard—is now altered to suit the purposes of a telling-room; but the House of Peers remains exactly as it was left by that assembly, being only occasionally used for meetings of the Bank directorate. The latter is a small but handsome hall, adorned with tapestry representing transactions in the subjugation of Ireland by King William—the battle of the Boyne, the breaking of the boom, and so forth, as also a few appropriate inscriptions.

In Kildare Street, at no great distance from the College and Bank, the halls of the Royal Society of Dublin present a powerful claim to the attention of strangers, in the great variety of curiosities, pictures, and models, with which they are filled. In a perambulation of the city, the Castle is the next object worthy of notice. This ancient seat of the viceregal government, to which rumours of plots and insurrections have been so often brought by terror-struck spies or remorseful participators, is placed on slightly elevated ground, in the midst of the old or southern division of the city. It consists of two courts, containing certain public offices, and the apartments of state used by the Lord-Lieutenant. In the lower court is the Castle Chapel, a beautifully constructed and beautifully furnished modern Gothic place of worship, the whole materials of which are of Irish production, and which cost above £40,000. The service performed here every Sunday forenoon, graced as it is by the finest vocal and instrumental music, while a rich "religious light" streams through stained windows, and is reflected from the gorgeous stalls of civil and ecclesiastical dignitaries, is one of the most attractive things in Dublin. The state-apartments of the Viceroy are in the taste of the middle of the last century, and are elegant, but not remarkable for grandeur. In one is a bust of Chesterfield, who was Lord-Lieutenant in 1745. The most remarkable room is the ba denominated St Patrick's Hall, which is spaci lofty, and among other attractions has a ceilin mented with pictures, representing transaction history of Ireland.

In Ireland, old ecclesiastical structures are more curious for their antiquity than their Accordingly, the exterior of St Patrick's and church, the two cathedrals of Dublin, is apt t ungainly to an eye fresh from Westminster or In the former building, nevertheless, the in the choir, in which service is usually perfor impress every mind by its lofty proportions, pous monuments, and the dark stalls and nic mounted with the helmets and banners of the of the order of St Patrick. In visiting this church, the predominant thought is—SWIFT. for his dwelling as we approach, and for his to we enter—such is the power which genius has the feelings of men for all time upon every thing connected with it! The deanery still St Kevin Street, containing the portrait of Sw which all the engraved likenesses have been The streets immediately surrounding St Patr thedral are the meanest and vilest in the ci houses have a ruinous and forlorn look, and t ments are crowded with a population of t wretched order. These streets are filled wit but the trades to which they are devoted serv to betray the misery than to manifest the co the people. Dealers in old clothes, pawnbroker dealers, and persons trading in offals, almost kinds of animal food indulged in by the lowe of the people, abound.

At the western extremity of Dublin, on th side of the river, is the celebrated public pr denominated the Phœnix Park, said to consist a thousand acres. Not only does this park gr ceed those of London in extent, but it is ques if even the Regent's Park, after all the exp curred in ornamenting it, will ever match this in beauty. The ground is of an undulating ch and is covered with groups of fine old tim shrubbery, amidst which are the domestic re of the Lord-Lieutenant and his principal officers some other public buildings, and a tall obelis nour of the Duke of Wellington's victories. gical garden has lately been added to the othe tions of the Park.

Dublin was formerly a busy literary mart, i quence of the state of the copyright law, which of cheap reprints of British books being here After a long interval, the activity of its publis lately revived, and there are now several house afford considerable encouragement to native among others, those of Mr Tims and Mr Mil Grafton Street, and that of Messrs W. Curry, J Co., in Sackville Street. The latter has had th of for the first time establishing a respectable cal work in Ireland, the *Dublin University M* which has been carried on with increasing su a number of years.

Dublin possesses a number of beneficiary inst conducted on a scale of great liberality; also religious and educational societies, whose op are extended over the whole kingdom. The tr ried on in the town refers chiefly to home c tion; and, excepting tabinets or poplins, it is tinguished as the seat of any manufacture. very little foreign export from Dublin. Its p imports are—timber, from the Baltic; tallow and tar, from Russia; wine and fruits, from Spain, and Portugal; tobacco, bark, and spice Holland; and sugar, from the West India islan

The most important branch of its commerce carried on with England, chiefly in connexi Liverpool, to whose market there are now la ports of native produce. Though the Liffey fo harbour of the port, vessels of large burden, an

k cotton cloth, timber, leather, tobacco, salt, and
n. Drogheda contains three Episcopal churches—St
ter's, St Mary's, and St Mark's, which is a chapel
ease to St Peter's; four Roman Catholic chapels,
monasteries, and a friary. The chief civic build-
gs are a handsome tholsel, custom-house, tri-weekly-
ket, jail, and linen-hall. The town does not bear
literary character: it has, however, four tolerably
d booksellers' shops and a reading-room: there is
o a mechanic's society in Drogheda. Its principal
nufactories are a flax-mill, two foundries, salt works,
distillery, three breweries, one of which, belonging to
Cairns, is celebrated for the superior quality of its
, which is in constant demand in the English and
eign markets. There are, besides, several large
ar-mills, and a soap and candle manufactory. There
a salmon-fishery on the Boyne, close to the town;
d cod, haddock, plaice, soles, and gurnets, are abun-
ntly caught along the coast. The linen trade is still
rried on in Drogheda, though it is at present in a very
pressed condition. The time of its greatest prosperity
s from 1814 to 1820, during which period 4000 pieces
linen were averaged to be the weekly product. There
s also a temporary revival of the cotton trade in this
wn; but in the commercial panic of 1825-6, many of
Drogheda weavers passed over to Manchester and
dham, others went to France, and a large body emi-
ated to America, in consequence of which the cotton
siness ceased. The population in 1831, was 17,[illegible].

MUNSTER.

Munster contains six counties, *Clare*, *Cork*, *Kerry*,
merick, *Tipperary*, and *Waterford*, and may be con-
dered as that part of Ireland in which the national
aracter, and the national habits of all kinds, are
intained in their greatest purity. Some of the largest
ats of population in the island, as the cities of Cork,
aterford, and Limerick, are situated in Munster. The
ovince contains many tracts of beautiful scenery, and
e in particular, which is allowed to be unequalled in
e kingdom—the celebrated lake district at Killarney.
The *lakes of Killarney* are situated in the bosom of
e mountainous county of Kerry, and are annually
ited by travellers from all parts of the island, as well
from neighbouring countries. They are three in
mber, of unequal size, and considerably varied with
spect to surrounding scenery, though that may be
scribed as generally of a mountainous character.
ugh Lane, or the Lower Lake, by far the largest of
e three, is skirted on one side by the level and well-
ltivated country surrounding the pleasant village of
llarney; on the other side rise the Glena and Tomies
ountains. In this lake there are a number of wooded
ands, one of which contains the ruins of an abbey,
d another the remains of an ancient castle. On the
ore, towards the east, is the beautiful ruin of Muck-
ss Abbey. Divided from the Lower Lake by the fine
oded promontory of Muckross, but accessible by two
annels of level water, is the Middle Lake, called also
rk Lake, from the name of the mountain at whose
ot it reposes. Over and above the islands which stud
e surface, the beauty of these two sheets of water may
said to consist in the irregular promontories and
pes, generally wooded, by which they are surrounded,
d above which the mountains tower in sterile gran-
ur. In many nooks of the scenery, elegant mansions
ok out upon the lakes; in others the mountain streams
e seen descending in glittering cascades. The Upper
ke, the third of the series, is three miles apart from
e middle one, on a higher level, and totally embosomed
idst the hills. A stream descending from the one to
e other can be passed in a boat; and, at a particular
ace on the passage, it is common for tourists to have
bugle played, in order to enjoy the oft-repeating
hoes which it awakes in the neighbouring hills. The
pper Lake, having the wooded heights of Dericunighy
one side, the round-headed Purple Mountains on the
her, and, at the head, the bare many-coloured ridge
Macgillicuddy's Reeks, while the surface is broken

by a variety of sylvan inlets, presents a landscape of enchanting loveliness. In connexion with the lakes, there is a narrow rugged vale, named Dunloe, which is usually taken in by a tourist in a survey of this fine scenery.

Amongst other beautiful places in Munster, we can only particularise Glengarriff, a rugged and most picturesque vale near the head of Bantry Bay; the banks of the Blackwater, between Lismore and Youghal; the River Lee, below Cork, and the fine natural harbour (the *Cove of Cork*) in which it terminates; and the lofty iron-bound coasts of Clare, amidst which are some scenes of uncommon grandeur.

The soil in the southern parts of Limerick and Tipperary is perhaps not inferior in fertility to any portion of Europe. The Corkass lands of the former, and the Golden Vale of the latter, are celebrated for their extraordinary richness. These districts are chiefly appropriated to the feeding of black cattle. Wheat husbandry is cultivated throughout the limestone districts of Tipperary, Clare, and Limerick, while dairy farming is followed in the mountain districts of Kerry and Waterford. The potato culture necessary to supply the wants of an over-dense population, is eagerly pursued throughout the whole province; and it is a deplorable fact, that a large portion of that population have no other food during the greater part of the year. The grass farms let in large divisions of from 150 to 400 acres, at from 40s. to £3 per acre. In the dairies of the county of Cork, the great butter country of Munster, it is no uncommon thing to have from one to two hundred cows in profit; the advantage of which is, that a cask is filled at once by butter all of the same churning. The sweet thick cream only is churned, and that every morning. The pastures of these dairy-farms are highly manured, and are never broken up for tillage, experience having taught the dairy farmers that the older the sward the richer is the milk. Some of these grass lands have not been ploughed for a hundred and fifty years.

Daily labourers are usually paid from 8d. to 10d. per day; or, if engaged by the year, from 6d. to 8d. In the latter case, it is supposed that the labourer has a house, and grass for a cow, at what is called a moderate rent, and which, in the estimation of the labourer, is equivalent to additional wages. The food of a great part of the Munster peasantry consists of potatoes; to this is usually added milk, and, if they live near the sea, hake or herrings. In Cork, but few of the labouring poor have cows, because milk can be had in abundance at a moderate price at the dairies. It is, however, very customary to have ewes, which not only supply a tolerable quantity of milk, but furnish clothing. The women spin and dye the fleeces, and have them woven into thick frieze, and fulled at the village fulling-mill: from this practice, the southern Munster men are remarkably well clothed. The cottages, or rather cabins, are, generally speaking, wretched; but it may be stated, that in the dwellings and furniture of the people there is a growing improvement. The character of the Munster peasantry may be considered as of mixed good and evil—the evil arising from a total want of restraint in early childhood, bad education, or, as frequently happens, none at all. Female education is peculiarly neglected; and it is deplorable to see marriages contracted when the wife has few capabilities for managing a family, and rendering her husband comfortable, or his house a happy home.

Generally speaking, the trade of Munster consists in the export of provisions and agricultural produce, as wheat, oats, and potatoes, to a large amount.

There is on the Shannon an active fishery for trout, herrings, &c., and abundance of excellent fish are sent into Limerick, Ennis, Kilrush, and to the county of Kerry. Along the coast of Cork there is a fishery for pilchards, herrings, and other kinds of fish, which are caught in great quantities, so that frequently the farmers manure the fields with sprats.

of Towns.

The leading t[illegible] of Munster are *Cork*, *L*[imerick] and *Waterford*. [illegible] *Cork* is derived from t[he] word *Corcah*, whic[h] [illegible]fies a marsh. This city ranks as the second in Ireland with respect t[o] lation and commercial importance, stands on th[e] Lee, which, through several channels, pours it[s] into the harbour, from whence the tide flows [a] distance above the town. The streets are bu[ilt] the river channels, which, being all quayed, [are] y somewhat of a Venetian character: of la[te] wever, the narrower have been arched over, [and] main streams, in which the merchant ve[ssels] open.

The Episcopal ecclesiastical buildings of Cor[k] seven parish churches, the Cathedral of St F[in] Luke's Chapel of Ease and Free Church, th[e] the Foundling Hospital, and the Church of St [John] at Blackrock: two other churches are in [the] There are four Roman Catholic chapels, three [of] nearly completed, and four friaries. There ar[e] rous dissenting chapels—two meeting houses [of] leyan Methodists, one for the Primitive Wesley for Anabaptists, two for Presbyterians, one Society of Friends, and two for two other sects of dissenters. A new Scotch church is in [the] The principal public buildings are, the Bishop's which stands on a height overlooking the town jail, a little to the west of the city; the Custo large and handsome barracks, the City Libr Reading-Rooms, the infirmaries, the Chamber merce, the Steam-Packet Office, and a well-b spacious court-house, having in front a portico ported on six Corinthian columns and surmou an emblematic group of colossal figures. There in progress a new savings' bank, an extensive a mental building, but not more than half erecte a new banking-house of cut stone for a branc of Ireland; a new and showy corn-market hou an extensive workhouse for the Poor-Law Union three-quarters of a mile from the city.

Cork boasts of many schools—the Blue-Coat B for twenty-two sons of reduced Protestants; the Coat Hospital, for twenty children of each sex brought up Protestants; the Cove Street Infant san, Lancastrian, and Female Orphan Schools; cesan schools for the united diocese of Cork an and a free school founded by Archdeacon Pom

Among the charitable institutions in this cit Bertridge's Charity, where are maintained se Protestant soldiers; Skiddy's Almshouse, where aged women receive £29 yearly; Deane's School forty poor children are clothed and taught gratis is, besides, a masonic female orphan asylum, an ral almshouses. Indeed, in proportion to its s wealth, the city of Cork bears a peculiarly hi racter for benevolence.

There are five societies here, whose objects most entirely scientific—the Royal Cork Ins the Cuvierian, the Scientific and Literary Socie Mechanics' Institute, and the School and Lib Cook Street; one public subscription, and sev culating libraries; eighteen Protestant societ voted to religious purposes; four benevolent s for the relief of the distressed; five philanthr cieties, two lunatic asylums, and a school for i ing the deaf and dumb poor in George's Street.

The chief exports of Cork are grain, butter and provisions; its chief imports, wine, tea, sug coals. From the parliamentary returns, it that, during the five years ending 1834, the annual number of vessels entering the port c was—British, 135, tonnage 26,438; and forei tonnage 3384. Steam-vessels communicate Cork and Dublin, Bristol and Liverpool; and boats also ply daily between Cork and Cove. pulation of Cork, according to the census of 18 107,016.

the chief city of the west of Ireland, is the Shannon, near the place where that expands into an estuary. It consists of the w Town, respectively situated on the north des of the river, and connected by an ele- ı bridge. The new city contains many good d with handsome shops; but the old town dirty, decayed, and inhabited by a very ›pulation. Limerick contains a handsome some antiquity, situated in the old part of Episcopal churches and a chapel of ease, ses belonging to the Presbyterians, Inde- ıd the Society of Friends, with five Roman pels, three friaries, and one nunnery. The blic buildings are the Exchange, the City , the City and County Jail, the Police Bar- ıstomhouse, the Commercial Buildings, the the Market, and two banks. Though Lime- particularly literary city, it has an excel- ınd some very good booksellers' shops. The ıool at Limerick is the Diocesan, but there ivate day and boarding schools. There are able institutions, as the County Hospital; f Industry for the aged and infirm, widows, ung females, and deserted children; the Almshouse; Dr Hall's and Mrs Villiers's ł.

ard to the trade of Limerick, it has been at though it has increased with the exten- ity, it has done so by no means in an ade- ›rtion, when its peculiar advantages are the Shannon, which connects it with Clare, erford, and Tipperary, affording it innume- ›rcial facilities. The quays of Limerick are a scene of considerable bustle, though ented by vessels for the export of the native ›rovisions to the amount of 75,000 tons are l annually. The population of Limerick in imated to be 66,555.

', the chief town of the county bearing its ı large sea-port, is situated on the Suir, a ›m its junction with the sea. Native pro- value of £2,000,000, is annually exported y; but the imports are comparatively un- There is here a fine cathedral, founded en, and endowed with lands by King John, churches, meeting-houses for the Presby- the Society of Friends, a French church guenots, and several abbeys and friaries. ıl buildings are the Bishop's Palace, the nd the City Jail. Amongst its schools are ee-school, and the Blue Boys' Free-school, enty-five are instructed and partly clothed e boys apprenticed to different trades. The ı 1831 was 28,820.

ULSTER.

northerly of the provinces is ULSTER, con- ›unties of *Antrim, Armagh, Cavan, Donegal, nagh, Derry, Monaghan,* and *Tyrone.* The Ulster is hilly. The scenery is in general especially in the vicinity of its chief towns, st, and Armagh. In the county of Antrim, from Glenarm to Bengore Head presents of striking and romantic views. The most eature of this scenery is the peculiar con- the basaltic columns with which it abounds, the arrangement is strikingly displayed in ınd the *Giant's Causeway.* Bengore, one ›ntories of the causeway, lies about seven f the little town of Ballycastle: though cribed as a single headland, it is composed ll capes and bays, each bearing its own ›, and of these capes the most perfect is he summit of Pleaskin is covered with a od, which lies upon the rock, the surface racked and shivered. About ten or twelve ı top, the rock begins to assume a columnar ıl standing perpendicularly to the horizon, presents the appearance of a magnificent colonnade, supported on a foundation of rock nearly sixty feet in height. About eight miles from Pleaskin is *Fair Head,* the easternmost head of the causeway, which presents a huge mass of columnar stones, of coarse texture, but many of them more than two hundred feet in height. Some of these gigantic stones seem to have fallen from the top, and now present to the eye of the spectator the appearance of groups of artificial ruins. The part which may more properly be called the *Giant's Causeway* is a kind of quay, projecting from the base of a steep promontory some hundred feet into the sea: it is composed of the heads of pillars of basalt, which are placed in close contact with each other, forming a sort of polygonal pavement, somewhat like the appearance of a solid honeycomb. The pillars are jointed, and their articulation curiously exact, the convex termination of one joint always fitting with precision into a concave socket in the next. Within about two miles of the Giant's Causeway stands Dunluce Castle, situated on the summit of a rock whose base is washed by the ocean, by the ravages of which great part of the building was suddenly swept from its foundation. The mansion and offices stand upon the mainland, divided from the fortress by a deep cut which separates the rock on which the castle is placed. Over this chasm lies the only approach to the building, along what was one of the walls of the drawbridge: should the passenger miss his footing on this narrow path, there is not the slightest protection on either side to save him from the abyss beneath.

The soil of Ulster varies much. In the counties of Armagh, Down, Antrim, Derry, and Monaghan, it passes from a deep rich fertile clay to a dry sandy or gravelly loam; while in Donegal, Tyrone, Fermanagh, and Cavan, a great proportion of it is cold, wet, and spongy. Tillage is, in general, in an improved state throughout this province; and, though the old Irish plough and the slide car are still occasionally used in the remoter parts, many of the modern implements of husbandry have been introduced, especially in Down and Londonderry. The English spade has nearly displaced the long or one-sided spade; the angular harrow and the threshing-machine are much in use, and the Scotch plough has almost superseded the heavy Irish one. The corn crops most general are oats, here, barley, and a small proportion of wheat. Barley is in Derry said to pay the summer's rent, and flax the winter's. Potatoes are largely planted by rich and poor, and gentlemen-farmers cultivate turnips and mangel-wurzel. Lime and peat are the most usual ingredients of the manure employed in the inland districts; while in the maritime counties, sea-sand, sea-weed of different sorts, and various kinds of shells pulverised, are used in addition. From the wetness of the soil, in some of the northern parts of Monaghan, the manure is usually carried to the fields in baskets, called *bardocks,* which are slung over asses' backs or the shoulders of the poor women. A small but hardy race of horses is reared in the island of Rathlin, or Raghery; and the old Irish sheep still prevails in and near Carey, in the county of Antrim. Pigs, goats, and donkeys, are numerous, the latter being much used in the counties of Cavan and Monaghan. A good deal of butter is sent to the markets of Belfast, Antrim, and Derry, from the various dairies scattered through Ulster.

Whatever were the manufactures of Ireland before the time of James I., they were swept away in the long series of wars between government and the local chieftains in the days of the Tudors; and the Scottish settlers in the north of Ireland, and those English whom Boyle, Earl of Cork, brought into Munster, may be considered the introducers of nearly all the manufactures that now exist in Ireland. During the reigns of Charles I. and II. much attention was paid to them; and the exertions of Lord Strafford, Sir William Temple, and the Duke of Ormond, caused the establishment of the linen trade to be attributed successively to each. The Duke of Ormond not only

procured several acts for its encouragement, but sent Irishmen to Flanders to be instructed in the details of the flax manufacture; and also established a linen factory both at Chapelziod, near Dublin, and at Carrick-on-Suir. In the reign of William III., the linen business rose to still greater importance, from the compact between the English and Irish merchants to discourage the woollen and promote the linen trade; for which purpose they procured a statute to be passed, levying additional duty on Irish woollen goods, from a jealous fear that the prosperity of the Irish woollen trade was inconsistent with the welfare of that of England. Another impetus was given to the linen trade by the emigration of the French manufacturers, after the edict of Nantes, of whom a large number took refuge in Ireland; and Mr Louis Cromelin, a leading manufacturer, obtained a patent for improving and carrying it on, and his efforts were crowned with considerable success. In the 9th year of Queen Anne, a board of linen and hempen manufactures was established, and linen allowed to be exported, duty free. In the 8th of George I., a grant was given to build a linen-hall, and another to encourage the growth of flax and hemp. Previous to 1778, bleached linen was sold in the fairs, the manufacturer being the bleacher; but when the manufacture extended, bleaching became a separate business. Considerable sums had been from time to time voted by Parliament for its support; and during the eighteenth century the trade continued to advance, until the check it received during the American war. On the re-establishment of peace it revived, and was at its greatest height from 1792 to 1796. Since this period it has considerably increased, and, though deprived of all artificial props, in the form of bounties, is now a flourishing department of industry. Belfast is the great centre to which the linens, not only of Ulster but also of the weaving districts in the west of Ireland, are sent for sale; and from hence large quantities are exported to foreign countries. The linen trade prospers at Castlewellan, Rathfriland, and Banbridge, in the county of Down, and also at Lurgan in the county of Armagh, where the weavers are at once weavers and manufacturers. At Dungannon, in the county of Tyrone, it has greatly declined, and is in Donegal chiefly confined to those who work for farmers or market sale.

The province of Ulster was also the seat of the first cotton manufactory introduced into Ireland. In 1777 the manufactures were in the lowest state of depression. To give them some stimulus, Mr Joy conceived the plan of introducing cotton machinery from Scotland; and a firm for this charitable purpose was formed, of Joy, M'Cabe, and M'Craken; and a mill for spinning twist by water was erected by them at Belfast in 1784, at which time the manufacture may be said to have been established; and so rapidly did it spread, that, in 1800, in a circuit of ten miles, comprehending Belfast and Lisburn, it gave employment to 27,000 individuals. But, from want of assistance at home to protect it, and the embargo laid on American goods, which inundated Ireland with English manufactures, the trade has declined, and the cotton manufacture is now almost altogether confined to the county of Antrim. Through the early part of the present century, it was carried on to a considerable extent in Drogheda, Collon, Strafford, Mountmellick, Limerick, and Bandon. Belfast was, however, the place where most skill and capital were expended; as the trade increased there, it declined in other parts of the kingdom; and, though large manufactories have formerly been established at Clonmel, Portland, and Limerick, it may for all practical purposes be considered as extinct in the other parts of Ireland.

No returns have been given since the year 1825, when the total number of pounds of cotton wool imported into Ireland was 4,065,930; and of cotton yarn imported thither from Great Britain in the same year, 41,953,156.

Wherever the linen trade is in operation, the people have constant employment, in consequence of being able to fall back upon their looms when agr work is not in demand. They may be said, in years, to enjoy a competency; that is, a suffi food, raiment, and fuel. But in the western Ulster, as, for example, the mountainous di Tyrone, Donegal, and Derry, where the line facture does not exist to any extent, the l classes are not much better off than in the th provinces. However, speaking of Ulster ge may be said the lower classes have more sel more industry, more desire for advancement in in other parts of Ireland. In fact, they ar educated, and therefore a more improving pe may be expected, their taste for comfort o the economy of their houses and farms; ar in the mountainous districts above alluded old habits still maintain their ground, the U santry may be considered as a respectable cl ciety. The average rent of arable land is from per acre, usually rising in the immediate neigh of towns to £5 or £6. The wages in Ulster 6d. to 9d. a-day in winter, and in summer to 1s. a-day, without diet. The food of the is chiefly potatoes, oatmeal porridge, oaten b and fish, which those who live near the sea that species of sea-weed called the edible *alg*

The salt-water fisheries of Ireland cannot have ever thriven. Under the former syst Irish Parliament, of giving bounties, large at different times voted for their encourage by this there was no real strength given, t withdrawal of these bounties, things fell b natural level, and the sea-fisheries became inefficient for any purpose but that of sup localities surrounding the fisherman's dwel fishery laws are now enforced with regard t sea and river fishing, and therefore there is believe that this branch of industry is on th and, if properly managed, will become one c means of benefiting the island. The rive though less productive than under better m they might have been, yet form in several par a lucrative source of property. The lakes abound with trout, pike, perch, eels, and ch the Bann, the Foyle, and the Ballyshannon i are established very successful salmon-fishe merly, whales were not unfrequently, and though but seldom, taken at the coast fishe province. The salmon-fisheries of the Foy Bann were early celebrated. In Phillips's are stated to have been let from 1609 t £666, 13s. 4d. a-year, for three years at eleven years at £1060, and for twelve years Easter 1639, at £800. The right of fishing Foyle, so far as Lifford, is vested in the Iri by the charter of Londonderry, granted by J 1613. The increase of the quantity of fish t the introduction of stake-nets is very co The salmon for exportation to London and to are packed with ice in boxes, 15 salmon, wei ther about 90 lbs., being put into each case. made to Sir William Petty about 1682, it is the fishing for salmon in the Bann River, all the salmon fisheries, begins with the 1st o ends on the last of July. But by the prese season now begins the 1st of February and e 1st of September, seven months being ope close. The Bann fishery has of late years neglected; but, under the spirited and judicio ment of Charles Atkinson, Esq., it has been proved during the last year.

Chief Towns.

The chief towns in Ulster are *Belfast*, a in the county of Antrim; *Londonderry* or *Coleraine*, in the county of Londonderry; the county of the same name; *Strabane*, in of Tyrone; *Armagh*, in the county of Arm *Newry* and *Lisburn*, in the county of Down.

The blind are employed in weaving and basket-
ing, and lately, by the introduction of raised letters,
have been instructed in reading. In 1824, there
in the town and parish sixty-three schools of all
s, at which 2152 males and 1656 females were edu-
d, exclusive of the Royal Academical Institution,
ch in 1823 contained 462 boys in its various classes.
Institution originated in 1807, in a voluntary sub-
ption of the inhabitants, by whom a fund was raised
bove £25,000, to which the late Marquis of Hast-
added £5000 for its erection and the endowment of
achers and professors. It consists of two depart-
ts, one elementary, the other for the higher
nches of science and literature. This establish-
t is directed by a president, four vice-presidents,
nty managers, and eight visiters, chosen by the
rietory. The chairs in the collegiate department
eight, embracing Divinity, Moral and Natural Phi-
phy, Logic, Mathematics, Greek, Latin, Hebrew,
a lectureship on Irish. The object of this aca-
y was to give cheap home education to those who
heretofore frequented the Scottish colleges. The
op of Ulster receives the general certificate of this
itution as a qualification for ordination, and it may
now considered the great seminary for the Presbyte-
Church in Ireland. The Belfast Academy had been
nded some time previously by private subscription.
f literary societies, Belfast possesses the Society
Promoting Knowledge, founded 1788; the Literary
iety for Improvement in Literature, Science, and
iquities, founded 1801; and the Natural History
ety, founded 1821. The town has lately received
valuable addition of a botanic garden, on a large
e, and laid out in an exceedingly tasteful manner.
as established and is wholly supported by the inha-
nts of Belfast, and affords a pleasing proof of their
it and liberality. The population in 1831 was
87, but this number is now considerably increased.

Londonderry ranks next to Belfast. Besides being a
port of considerable importance, it is the seat of a
op's see. It is situated on the west bank of the
le, a few miles above the point where that river
ads into the harbour of Loch Foyle, and is dis-
146 miles from Dublin. The original town, built
Sir Henry Dowera about 1603–4, was burned by
Cahir O'Dogherty in 1608; and the present city
be considered as deriving its origin from the Lon-
plantation, which was the immediate result of that
strophe. The walls of Derry are described by
nar as "excellently made, and neatly wrought; the
uit thereof about 284 perches, and in every place
wall being 24 feet high and 6 in thickness;" and,
r a lapse of more than two centuries, these fortifica-
s retain their original form and character. The
th-west bastion was demolished in 1824, to make
n for a market; and in 1826 the central western
ion was modified for the reception of Walker's Tes-
onial; but the guns used during the celebrated siege
still preserved in their original places. The total
ber of cannon remaining in the city and suburbs
bout fifty; and in the court-house yard stands
ring Meg, so called from the loudness of her report
ing the siege. This cannon is 4 feet 6 inches round
he thickest part, and 11 feet long, and is thus in-
bed—"FISHMONGERS, LONDON, 1642."

he chief of the ecclesiastical buildings is the Cathe-
. For nearly twenty years after its plantation,
ry was without a proper place of worship, part of
ruined church of Saint Augustine being employed
that purpose. At length a royal commission of
iry was appointed, which, in 1628, reported that
corporation of London had begun to build a fair
rch in Derry, and in 1633 its erection was com-
ed. This event is recorded in a tablet, which was
mally placed over the door of the porch of the old
edral, but is now over that of the belfry, bearing
following couplet:—

stones could speak, then London's praise should sound,
ho built this church and city from the ground.—A.D. 1633."

The other principal places of worship are—a chapel of ease, a free church, two Presbyterian meeting-houses, a Wesleyan chapel, a Primitive Wesleyan Methodist chapel, also Reformed Presbyterian, Seceding, and Independent chapels, and a Roman Catholic chapel, which can accommodate 2000 persons. The principal buildings in the city are the Bishop's Palace, the Public Library and News-room, the Lunatic Asylum, the Jail, and the Corporation Hall. Of its various manufactories, the chief are two great distilleries, and two corn-mills, one worked by a steam-engine of eighteen the other by one of twenty horse-power. The public schools in Derry are, the Diocesan, the Parochial, the Presbyterian, the Meeting-house, St Columb's, the Barracks, the Infant School; and besides these are many others, public and private. There is here a branch of the London Bible Society, the Londonderry Literary Society, and one for promoting religious, moral, and historical knowledge. There are also the Londonderry Farmers' Society and the Mechanics' Institution. The port carries on a considerable traffic, both with respect to imports of foreign and British produce, and exports. The estimated value of the exports of Irish produce is above a million sterling per annum. The population of Londonderry in 1831 was 10,130.

The city of *Armagh*, situated in an inland part of the country, is of considerable local importance. It is placed in the midst of a rich and beautiful district, the face of which is singularly varied by detached hills, some of which are more than a thousand feet in height. This character of country stretches from Lough Neagh in the north to the north-western part of the county of Meath in the south, and is well watered by lakes and streams, and, generally speaking, richly furnished with wood. The city stands on a hill, which is crowned by the old cathedral, around which the town has gradually arisen. Within these few years, several handsome buildings have been erected, with cut stone fronts—the Court-house, the Jail, the Presbyterian Church, Primate Stewart's Free School, founded and liberally endowed by him, and well carried on; the National School, and the Savings' Bank. The Cathedral has been re-edified within these five years, at an expense exceeding £30,000, in the pointed Gothic style, for the most part in very good taste; the organ is a remarkably fine one, and the choir excellent. The roads, in all directions, are admirable; and in the laying out of the new ones, they are carried round instead of over the hills. There is water-carriage from both Belfast and Newry by lake and canal, to within four miles of the city; the streets have flagged footways, and are well lighted with gas. About forty years since, the population was only 1000. It now amounts to 13,000. The Archbishop of Armagh, Primate of all Ireland, resides close to the town, as do also a large number of clergymen attached to the Cathedral, as well as many respectable gentry. Near Armagh stands the Observatory, built and endowed by Primate Robinson, whose munificence greatly contributed to the advance of science and improvement of the whole diocese. This noble institution is at present conducted by the Rev. Dr Robinson, Professor of Astronomy.

CONNAUGHT.

Connaught, the smallest of the four provinces, contains but five counties, those of *Leitrim*, *Roscommon*, *Mayo*, *Sligo*, and *Galway*. There are in this province large tracts of mountainous and sterile land, especially in the western parts of the counties of Galway and Mayo. The peninsula formed by the western part of the first of these counties is named *Connemara*, and is famed for its scenery, which somewhat resembles that of Argyllshire. It may be described as a vast tract of mingled bog, lake, rocky moorland, and mountain, bounded and partially penetrated by deep inlets of the sea, resembling the fiords of Norway. The principal lake is Lough Corrib, which is twenty miles long, full of islands, and surrounded by an extensive rocky desert, bearing no small resemblance to those of Arabi tween this lake and the western extremity of mara, there is a range of tall swelling green hills the Twelve Pins of Bunabola, and to the north is an estuary famed for its wild scenery, nam Killery, many miles in length, and connected Atlantic by a passage only thirty feet wide. Co contains a small, scattered, and primitive po unusually full of superstitious and old feudal Besides Clifden, a modern fishing-village on coast, there is scarcely any such seat of popu the district. There are, however, a few hot for the accommodation of the numerous tour flock thither in summer.

From the high grounds near Westport, is ob view of Clew Bay, a magnificent sheet of almost water, full of islands, and bounded by lofty m amongst which the most conspicuous are Patrick and Nephin. The islands of Clare a bound the scene towards the west. In some the weather, and particularly when a summe calmly descending on Clare, the view of Cle one of extraordinary beauty. The islands ar the common people to be as numerous as th a year, but in reality are only about a hundred. Patrick is regarded with superstitious feeling peasantry, as the spot where their tutelary accustomed to preach.

Amidst the great tracts of wild ground in Co there are a few other spots of an unusually character. The scenery round Lough Allen which the Shannon flows, is extremely pret also that near Boyle, at the foot of the Curle tains. At Lough Gill, near Sligo, a lake h strong resemblance to the upper lake of K and the little bay of Ardnaglass, into which cataract of Ballysedare, are scenes of peculia Much of the surface of Galway is flat, sho twenty miles together, a succession of narrow l rocks, like parapet walls of three feet high, parallels to each other, at distances of from ten feet: the intermediate spaces, though ap but a waste of rock and stone, supply the fin pasture in the kingdom.

The great central limestone district of Ire cupies the southern portion of this province, the eye, forms an exception to the general c of limestone countries, appearing so exceedi ren, that, in passing over tracts of Galway an the traveller almost doubts whether he is not ing over a great cemetery covered with tom rather than over places where the sheep ca pasture or the peasant plant potatoes. Th however, some exceptions to this prevailing for nowhere are finer sheep-walks found than parts even of the southern counties of Co The tillage of this province is principally con oats and potatoes, as best suited to the shallow tain bog-soil, which so largely prevails in the baronies. The extreme moisture of the clim inimical to the growth of wheat, that, except parts of Galway, Connaught cannot be said to own bread corn. There is a great export of potatoes from the ports of Galway, Westport, a With regard to husbandry, though it certain proving, it is yet much inferior to that of the ot vinces. The landholders pride themselves on t of long-wooled sheep, their great source of wea the celebrated Fair of Ballinasloe, where fro to 100,000 are usually sold, year after year ex improvement in this branch of rural economy. cattle, and horses, especially hunters, are a extensively in Galway. What has been said ster applies in a still more aggravated degree naught. The property of an absentee landlord i divided into portions ruinously small; and if prietors do not quickly interfere, deplorabl quences must result from the subdivision syste grazing farms are let in large portions, which

F IRELAND.

1835, the vessels entered inwards numbered 145, an aggregate burden of 12,915 tons; while the ves- s cleared outwards amounted to 145, with a tonnage 15,531. In 1840, a splendid dock was opened, from hich great expectations are formed of the increase of ade. A steamer in this bay is highly necessary, for wing out vessels in adverse winds. In 1831, the opulation of Galway was 33,120.

Across the country in a northern direction, and also uated at the head of a bay bearing its name, stands ngh, a town of a much smaller population than Gal- y, but more important as respects its commerce. has carried on for several years a considerable trade, th export and import, and is still increasing, not- thstanding the bad state of its harbour. The ex- rts are wholly limited to agricultural produce. The tail trade is extensive, articles of every description demand being supplied to a large and populous dis- ict. The streets in the older part of the town are rrow, dirty, and ill-paved, and badly suited to the stle of an export trade. But convenient markets ve been erected, and the extension of the town by gularly built wide streets, is expected to remedy e inconvenience and irregularity of the older parts. me good public buildings embellish the prominent nts in and about the town, and the River Clarewgue, ich bears the surplus waters of Lough Gill to the y, and turns several large flour-mills in its course, is fine feature in the scene. The suburbs are beautiful d picturesque. In 1831, the population was 15,152.

TRADE BETWEEN GREAT BRITAIN AND IRELAND.

The trade and general intercourse between Great itain and Ireland have been greatly increased since e Union in 1800, and more particularly since the tablishment of steam navigation on a large scale. e following statements on this branch of our subject e given by Mr Porter in his lately published work, The Progress of the Nation."

The value of produce and merchandise that have been e objects of trade between Great Britain and Ireland, various years since the Union, has been stated in pers laid before Parliament, as follows:—

	Imports into Ireland from Great Britain.	Exports from Ireland to Great Britain.
1801, - - - -	£3,270,250	£3,587,795
1805, - - - -	4,067,717	4,393,107
1809, - - - -	5,510,537	4,289,305
1813, - - - -	6,791,253	3,410,231
1817, - - - -	4,722,791	2,694,613
1821, - - - -	5,290,858	7,117,459
1825, - - - -	7,668,366	9,531,225

No account of this trade can be given for any year bsequent to 1825, the commercial intercourse between eat Britain and Ireland having at the end of that ar been assimilated by law to the coasting traffic rried on between the different ports of England; and, th the exception of the single article of grain (as to ich it was considered desirable by the legislature to ntinue the record), we have now no official register the quantity or value of goods or produce received m or sent to Ireland. That this traffic has greatly creased in all its branches there can be no doubt; and s increase may partly be attributed to the abolition the restrictions that existed up to 1825, but probably ll more to the employment of steam-vessels upon an tensive scale. To show the extent to which the ffic has been carried by this means, a statement s furnished to a committee of the House of Commons the manager of a company trading with steam-vessels tween Ireland and Liverpool, of the quantity and lue of agricultural produce imported into that one rt from Ireland in 1831 and 1832. From this state- nt it appears that the annual value of the trade was out four millions and a half sterling, which was in at part made up of articles that could not have been profitably brought to England by any previously sting mode of conveyance—such as live-cattle, horses, ep, and pigs; the value of which amounted in 1831

to £1,760,000, and in 1832 to £1,430,000. During the same two years the value of Irish agricultural produce brought to the port of Bristol averaged about one million sterling. The whole number of cattle, horses, sheep, and pigs, sent from Ireland to the various ports of England and Scotland, in different years from 1801 to 1825, was as follows:—

	1801.	1805.	1809.	1813.	1817.	1821.	1825.
Cattle,	31,543	21,862	17,917	40,973	45,391	26,725	63,519
Horses,	669	4,114	3,264	3,904	848	2,392	3,130
Sheep,	2,879	10,938	7,572	7,508	29,460	25,310	72,161
Pigs,	1,968	6,393	4,712	14,521	24,193	104,501	65,919

The numbers sent to Liverpool and Bristol alone, in 1831 and 1832, were—

	Liverpool.		Bristol.	
	1831.	1832.	1831.	1832.
Cattle, - - -	91,911	71,318	6,078	4,077
Horses and Mules, -	539	708	159	190
Sheep, - - -	169,487	98,337	11,640	4,446
Pigs, - - -	156,001	149,090	84,107	85,619

The statement above mentioned of the imports into Liverpool occasioned considerable surprise at the time it was made, from the greatness of its amount; but it would appear that this branch of trade has since gone on increasing in a most extraordinary degree, as will be seen from the following account of the number and value of live animals brought from Ireland to Liverpool in the year 1837:—

84,710 Black Cattle, at 16l. each, - -		£1,365,360
316 Calves,	45s. .. - -	711
225,050 Sheep,	40s. .. - -	450,100
24,632 Lambs,	18s. .. - -	22,202
385,422 Pigs,	50s. .. - -	1,488,555
3,414 Horses,	20l. .. - -	68,280
319 Mules,	8l. .. - -	2,552
	Total value, - -	£3,397,760

The average value here assigned to the several kinds of animals, is given on the authority of an intelligent gentleman resident at Liverpool, and who is practically acquainted with the trade.

The value in money, of one seemingly unimportant article, eggs, taken in the course of the year to the above two ports from Ireland, amounts to at least £100,000. The progress of this trade affords a curious illustration of the advantage of commercial facilities in stimulating production and equalising prices. Before the establishment of steam-vessels, the market at Cork was most irregularly supplied with eggs from the surrounding district; at certain seasons they were exceedingly abundant and cheap, but these seasons were sure to be followed by periods of scarcity and high prices, and at times it is said to have been difficult to purchase eggs at any price in the market. At the first opening of the improved channel for conveyance to England, the residents at Cork had to complain of the constant high price of this and other articles of farm-produce; but as a more extensive market was now permanently open to them, the farmers gave their attention to the rearing and keeping of poultry, and, at the present time, eggs are procurable at all seasons in the market at Cork, not, it is true, at the extremely low rate at which they could formerly be sometimes bought, but still at much less than the average price of the year: a like result has followed the introduction of this great improvement in regard to the supply and cost of various other articles of produce. In the apparently unimportant article feathers, it may be stated, on the respectable authority above quoted, that the yearly importation into England from Ireland reaches the amount of £500,000.

When, some years ago, it was determined to cease keeping any official record of the commercial intercourse between Great Britain and Ireland, an exception was made as regards grain and flour, that trade being of great personal interest to our legislators. The following statement exhibits the quantities of those kinds of produce sent to Britain from Ireland in each year from 1815 to 1836:—

Years.	Wheat and Wheat Flour.	Barley and Barley Meal.	Oats and Oatmeal.	Total, including Rye, Beans, Peas, &c.
	Qrs.	Qrs.	Qrs.	Qrs.
1815	120,544	27,108	597,537	821,191
1816	121,631	62,354	693,714	974,993
1817	50,025	26,766	611,117	699,309
1818	106,230	25,387	1,069,385	1,307,851
1819	154,031	20,311	789,613	967,861
1820	404,747	87,095	916,250	1,417,189
1821	569,700	82,884	1,162,249	1,822,876
1822	463,004	22,532	669,237	1,063,962
1823	400,068	19,274	1,102,487	1,528,153
1824	356,408	45,872	1,225,085	1,634,094
1825	306,018	165,032	1,629,956	2,203,962
1826	314,851	64,895	1,303,734	1,612,189
1827	405,255	67,791	1,343,267	1,829,743
1828	652,584	84,204	2,075,831	2,886,135
1829	519,493	97,140	1,673,629	2,305,806
1830	529,717	189,745	1,471,252	2,212,729
1831	557,520	185,409	1,635,934	2,419,643
1832	572,596	123,068	1,890,321	2,606,734
1833	844,201	107,519	1,762,519	2,736,201
1834	779,504	217,568	1,713,971	2,733,046
1835	661,773	156,176	1,813,101	2,639,345
1836	598,756	189,867	2,126,693	2,929,321

In the absence of all further customhouse record the following table of the number and tonnage of ves sels in which the trading intercourse with Ireland h been carried on during each year of the present cen tury, will afford a pretty correct view of its amou and progress. If we compare the tonnage employ in 1801 with that of 1836, we shall find that they ha the proportion of 257 to 100, showing an increase 157 per cent. It will further be seen that this increa has been much more rapid during the last ten years which steam-vessels have been so much brought in use, than it was in the preceding years of the serie Up to 1826, the increase from 1801 was no more tha 62 per cent., showing a mean annual increase of 2½ pe cent.; whereas, in the ten years following 1826, the i crease has been 95 per cent., or 9½ per cent. annually

Years.	Inwards.		Outwards.	
	Ships.	Tons.	Ships.	Tons.
1801	5,360	456,026	6,016	582,033
1802	5,020	461,320	5,540	449,350
1803	5,796	504,884	5,656	502,279
1804	5,643	490,455	6,148	557,279
1805	6,306	566,790	6,875	568,720
1806	6,907	578,297	7,032	586,720
1807	No returns can be procured for this year.			
1808	8,477	708,264	7,560	626,473
1809	7,041	600,808	7,011	580,567
1810	8,403	713,087	9,121	763,488
1811	9,014	789,097	8,216	703,736
1812	10,812	925,736	10,053	867,342
1813	8,569	718,851	9,096	773,396
1814	7,562	613,898	8,719	715,171
1815	8,462	680,333	9,602	776,313
1816	7,575	621,273	8,861	721,774
1817	9,186	770,547	9,530	762,770
1818	7,969	644,806	8,953	763,629
1819	8,575	699,385	9,751	796,495
1820	9,229	783,750	8,451	734,716
1821	9,440	819,648	9,266	801,007
1822	9,562	832,927	9,035	828,114
1823	9,382	786,637	9,357	814,383
1824	7,534	615,396	10,089	905,449
1825	8,922	741,182	10,881	922,355
1826	6,388	632,972	11,599	1,055,870
1827	7,411	737,752	11,083	1,044,093
1828	8,790	923,505	12,339	1,167,290
1829	8,922	906,158	13,478	1,286,108
1830	8,455	899,965	13,144	1,245,687
1831	9,029	921,128	13,158	1,246,749
1832	9,705	1,026,613	14,694	1,417,333
1833	9,476	1,041,382	14,227	1,378,556
1834	10,026	1,100,389	14,560	1,440,617
1835	10,116	1,138,147	14,698	1,473,255
1836	9,930	1,179,062	14,723	1,490,788
1837	10,299	1,202,104	15,347	1,585,024

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N TO

AMERICAN POSSESSIONS.

itary, measuring a few hundred miles back from the
t of the Atlantic, has been settled by people of
ygean descent. Excepting in a few districts, the
ander of the continent is possessed only by a thin
scattered population of aborigines. The southern
tropical part of North America is composed of the
ublics of Guatemala and Mexico; the most temper-
portion (from the 30th parallel of latitude to about
43d) forms the republic of the United States. The
e northerly part, with some islands, is in the pos-
ion of Great Britain, and comprehends the pro-
es of Upper and Lower Canada, New Brunswick,
a Scotia, Newfoundland, Cape Breton, St John's or
nce Edward Island, &c. The line of division betwixt
British possessions and the United States, is either
River St Lawrence and the lakes from whence it
ceeds, or an ideal and partly contested boundary.
nda is bounded on the east by the Gulf of St Law-
ce and Labrador; on the north by the territories of
dson's Bay; on the west by the Pacific Ocean; on
south by Indian countries, parts of the United
es, and New Brunswick. Canada is divided into two
vinces, the Upper and Lower, each of which has
herto had its own local government; but by a re-
act of the Imperial Parliament, the two provinces
united under one general legislative council and
se of assembly, two bodies respectively resembling
Houses of Peers and Commons in the mother coun-
and whose measures require the consent of the
ernor, as the acts of the home Parliament require
of the sovereign. The affairs of this, as of all other
nies, are subject to an ultimate control, vested immed-
ely in a colonial minister, but finally in the British
slature. In Lower Canada, or that portion next the
coast, the greater part of the population is of French
cent (this having originally been a French colony);
laws resemble those of France, and the French lan-
ge is generally spoken. Upper Canada, or more pro-
y *Inner* Canada, lies to the west and south-west of
lower province. Its inhabitants are of British de-
nt, and a very great number of them are from Scot-
l, both Lowlands and Highlands. The English law
church are here established; but there is the most
fect liberty of conscience, and as great a security
ife and property as even in Scotland or England.
er Canada is divided into districts, counties, ridings,
nships, special tracts, and allotments, together with
ks of land reserved for the clergy and the crown,
lands appropriated to the Indians. A district con-
s two or three counties, and each county contains
a four to thirty townships. There are 13 districts,
counties, and 6 ridings, comprising together 273
nships. The line of division betwixt Upper and
er Canada is in one part the Ottawa or Grand
er; nearly all the other lines of division in the pro-
ces are straight, without regard to physical distinc-

tion, such as hills and rivers; and this peculiarity is common over the whole of North America. The average territory of each township may be estimated at 61,600 acres, making an aggregate quantity of 16,816,800 acres. About 7,000,000 of acres have been granted to different classes of settlers; 4,805,400 acres are reserved for the crown and clergy (part of which has already been granted by the crown to the Canada Company); and 5,011,400 acres remain to be granted within the townships. This tract of country, chiefly bordering the north shore of the River St Lawrence Ontario, the northern side of that lake, and Erie up to Lake St Clair, and of the communic tween it and Lake Huron, a distance little sho hundred and seventy miles, and stretching n from the water to a depth varying from fifty miles, is composed of a soil, which, for produc ness, variety, and applicability to the highest of agriculture, may challenge competition choicest tracts of land in the New World.

Upper Canada is chiefly a flat country, a the greater part covered with timber, but po number of chains or ridges of high lands, ru different directions, and separating the sou channels of innumerable rivers and brooks. Th and level districts are called Table Lands. T feature of the country is its water-courses. B at the map, it will be perceived that there is a large lakes, communicating with each other; unequalled by any inland sheets of water in th and are entitled to the appellation of fresh-wa for they are not only of great extent, but are be affected by storms like the ocean itself. Th most, called Lake Superior, is 381 miles long, broad; Huron, 218 miles long, and from broad; Erie, 231 miles long, and about 70 in Ontario, 171 miles in length, and 60 in bread waters of Lake Erie, on issuing from its low mity, form a river of nearly half a mile broa in its course pitated over pice to a dept feet, thus ma famed catarac of Niagara. is, at the dista few miles be ceived by La rio, whence i River St Lawr of the largest in the world, a after a course miles, falls int lantic. This river is 90 m at its mouth, navigable for the line for 4 from the ocea upper parts, gation is imp *rapids*, or the of the strea an inclined pl some of these ments are obv means of ca cently cut; w there is now nued water c cation for vess the Atlantic interior or i lakes. The Canal, a ma undertaking, Lakes Erie a rio, and afford sage for vessels size. Lake Er connected by with the Hu river of the States, which into the Atlant Ottawa, or Gr er, is next to Lawrence in

dland, and Bathurst districts.—Situated between two
ad and navigable rivers, the Ottawa and the St
wrence, and centrally traversed in a diagonal course
an extensive and splendid sheet canal, connecting
navigation with the waters of Ontario, this section
country evidently enjoys important geographical and
al advantages. Its surface presents, almost uncx-
tionably, a table level of moderate elevation, with a
y gentle and scarcely perceptible depression, as it
proaches the margin of the magnificent streams by
ich it is bounded to the northward and southeast.
soil, though sometimes too moist and marshy, is
rerally rich and fertile, and chiefly consists of a
own clay and yellow loam. This section is intersected
numerous rivers, remarkable for the multitude of
ir branches and minor ramifications. There are
a number of good public roads, both along the St
wrence and Ottawa, and into the interior. Great
dustry and attention to improvement are displayed
on most of the lands throughout this tract. The
n of Kingston, the largest and most populous of the
per provinces, is very advantageously seated on the
th side of the St Lawrence, or rather at the eastern
remity of Lake Ontario. The streets are regular
well planned, and the number of houses may be
imated at about 620. The town has now considera-
e mercantile importance; the harbour is well shel-
ed and convenient.
The thriving village of Perth is situated in the town-
p of Drummond, on a branch of the Rideau, and
upies a central position between the Grand River
d the St Lawrence, communicating by tolerably
od roads with Kingston to the south and Bytown
the northward, at the opposite extremities of the
deau Canal. The first establishment, fostered by
vernment, was made in 1816, by British emigrants,
efly from Scotland, many of whom are now at the
ad of excellent farms, possess comfortable habita-
ns, and reap the fruits of their perseverance and
dustry.
Ascending along the shores of Lake Chaudiere, the
ects of note first presenting themselves are the rising
wnes in front of the townships of March and Tar-
on; they are chiefly composed of families of high
pectability, possessed in general of adequate means
avail themselves of the advantages that are incident
a newly opened country. High up, on the bold and
rupt shore of the *Chats*, the Highland chief Macnab
erected a romantic edifice, Kinell Lodge, which he
succeeded, through the most unshaken persevc-
nce, in rendering exceedingly comfortable.
The Central Section of the province (continues the
urate Bouchette) embraces the districts of Home
d Newcastle, which occupy a grant of about one
ndred and twenty miles upon Lake Ontario, extend-
from the head of the Bay of Quinté westward to
line between Toronto and Trafalgar. Although
s populous than the tract of country composing the
t part of the division which we have adopted, this
tion of the province does not yield to it in fertility,
d is equally well watered by numerous lakes, broad
d beautiful rivers, and innumerable streams and
ooks. The rivers in general abound with excellent
h, and especially salmon, great quantities of which are
nually speared in the River Credit, for the supply of
western country. In front of Newcastle district, on
borders of Lake Ontario, the soil consists of a rich
ck earth; but in the district of Home, the shores of
lake are of an inferior quality. The lands upon
nge Street [roads are frequently called streets in
nada], which connects Toronto with Lake Simcoe,
exceedingly fertile, but so destitute of stones (for
lding and other purposes), as to create some incon-
nience to the settlers. A sandy plain, of some extent,
ts some distance north of Ontario, towards Rice
ke; but, saving this, and probably one or two more
nparatively insignificant exceptions, the soil of this
ct of country is extremely fertile, well adapted for
riculture, and yields luxuriant crops of wheat, rye,

maize or Indian corn, peas, barley, oats, buckwheat, &c. The fronts of all the townships from Kingston to Toronto are, with few exceptions, well settled; roads lead through them, from which, in many places, others branch off to the interior. At intervals, rather distant indeed from each other, there are a few small villages. On the lands that are occupied, great progress has been made in agriculture: the horses, generally speaking, are strong and well built; and the inhabitants appear to be possessed of all the necessaries, as well as most of the comforts, that a life of industry usually bestows." In this division is the town of Toronto. Our authority next proceeds to notice

The Western Section, which includes Gore, Niagara, London, and Western districts. "With the aid of a little fancy," says Bouchette, "this tract of country may be shaped into a vast equilateral triangular peninsula, whose base, extending from Fort Erie to Cape Hurd on Lake Huron, measures 216 miles, and whose perpendicular, striking the Detroit River at Amherstburgh, is about 195 miles. It is bounded to the north and west by Lake Huron, River and Lake St Clair, and Detroit River; south by Lake Erie; and east by Niagara River, Lake Ontario, and the western limits of the district of Home. The surface it exhibits is uniformly level, or slightly undulating, if we except a very few solitary eminences, and those parts of the districts of Gore and Niagara traversed by the ridge of elevated land. The variety of soils, and the diversity of their combinations, observable in these four districts, are by no means so great as might be expected in so extended a region. The whole tract is alluvial in its formation, and chiefly consists of a stratum of black, and sometimes yellow loam, above which is deposited, when in a state of nature, a rich and deep vegetable mould, the substratum beneath the bed of loam being generally a tenacious grey or blue clay, which in some parts appears at the surface, and, intermixed with sand, constitutes the super-soil. There are numerous and extensive quarries of limestone to be found in these districts, that supply the farmers with excellent materials for building. Freestone is also found, but in small quantities, and generally along the shores of the lakes. The Thames River, in this section, rises far in the interior, and, after pursuing a serpentine course of about one hundred and fifty miles, in a direction nearly south-west, discharges itself into Lake St Clair." This portion of the province seems to us to be that most worthy of the attention of the emigrant; the climate is pleasant, the land excellent, the rivers numerous and useful; roads are opening up in all directions for the benefit of the inhabitants; and although at a great distance inland, the communication with the ocean is conveniently kept up by means of the lakes and canals. Were we about to emigrate, we would have little hesitation in directing our steps towards this portion of Upper Canada, so tempting from the prodigious vastness of its waters, the exuberant fertility of its extensive plains, its luxuriant orchards, and its busy scenes of rural industry.

Nearly equal to this tract, and superior as regards exemption from ague, is the Simcoe district, lying betwixt the lake of that name and the eastern part of Lake Huron. This land is about 900 feet above the level of Ontario, and of the richest quality. A steamboat on Lake Simcoe conveys the produce to Holland-Landing at the south end of the lake, and a railroad has been projected from thence to Toronto. A great part of this tract being settled by naval and military half-pay officers, who draw their pay quarterly, there will, consequently, be more ready money circulating here, and more employment for all kinds of tradesmen, than in most other places. The land here is rising rapidly in value. We may state that all kinds of tradesmen will find abundance of employment at Toronto; but, in consequence of its low situation on Lake Ontario, it is liable to agues, and will be avoided by those who are subject to such affections.

It may here be remarked, that the general salubrity of the climate improves as you recede from th of the lakes and great rivers, although these as a counterpoise, a greater facility of disposing plus produce.

The prevailing maladies on the shores of th and large rivers are fevers and the ague, wh though a most annoying complaint, is very fatal. By great care being given to regularit bowels, moderate use of spirituous liquors, kee feet dry, and avoiding unnecessary exposure air, it may generally be averted. We cannot suf impress on the minds of emigrants the neces will be under of adhering to temperate hab the Canadas, whisky is much cheaper than in hence this advice becomes of double importanc

Mr Fergusson, in his "Practical Notes," m ing a tour in Canada in 1831, furnishes his with a number of valuable illustrations of the s appearance of the Upper Province along the r pursued: indeed, all intending emigrants who ca it should purchase his very instructive volume. S of that part of the territory adjacent to Lower he says—"Returning to the St Lawrence, we e Upper Province, the Ottawa here forming the b line. As we ascend the river, we find numerous and thousands of acres well adapted for the One of the first settlements we meet with is t garry district, an extensive tract of good land, the advantages of water carriage. The language toms, and the native courage of their Celtic s distinguish the clan, though at the same time afraid, accompanied by some of those less p traits which stamp the Highlander as more at wielding the claymore, or extracting mount than in guiding the ploughshare to slow but results. The farms are but indifferently in considering the advantages they have enjoy much valuable time is expended in the depth forest, in a demi-savage life, cutting and p timber for the lumber merchant, which, if devoted to the cultivation of the land, would c be attended with infinitely greater benefit, b physical and moral point of view.

To go minutely into the statistics of even th of the river, would far exceed the limits to whic necessarily restrict myself. Suffice it to say, th stant succession of eligible situations present th for estates and farms. I was much pleased Matilda district, and consider it capable of g provement. The soil is a fine mellow sandy loa times perhaps rather light, but admirably ada turnip husbandry and fine-wooled sheep, with n beautiful situations for residences, the noble rence ever forming a prominent feature—its varied by lovely wooded islands, similar to tho justly admire on many of our British lakes. In ap ing Kingston, or the east end of Lake Ontario, th Gananoque falls into the St Lawrence, and at it is the establishment of Messrs M'Donell, two who came about eight years ago to the col who, by steady enterprise, without original capi realised considerable wealth, while, along with have secured the respect and esteem of all wh them. They have here what is called in Am valuable water privilege, or fall, and have erect and saw mills to a large extent.

Having received very encouraging accounts ston, of the country along the Bay of Quinté, inlet of Lake Ontario, formed by a peninsul Prince Edward's Island, I made an excursion district. The scenery was pleasing, in many very fine; and settlements are forming on eve The soil is partly clay, partly loam and san ciently rich to yield fifteen crops of good wheat, punity, in a period of twenty years. Granite, lim and schistus, or clay-slate, are successively m Wherever a stream or creek of any importance the lake, there we find a mill-seat and a village up, the embryo, in many cases, of considerable

two feet long and eighteen inches broad; these as much of the surface of the snow that the r sinks but a very few inches, even when the is softest.

hile the external weather is guarded against by the dians when out of doors, their habitations are also ed against the destructive power of intense cold. walls of the houses are usually plastered on the de, to preserve the stones from moisture, which, ed on by the frost, is liable to split them; and the ments are heated with stoves, which keep the temure at a higher and more uniform rate than our sh fireplaces will.

must not, however, be supposed that the severity winter is any obstacle to out-door amusements, gh it stops the navigation of the rivers and the cultion of the soil. On the contrary, winter in Canada season *of* joy and pleasure; the cares of business laid aside, and all classes and ranks indulge in a al carnival, as some amends for the toil undergo during the summer months. The sleigh or carof the humble *habitan*, or proud *seigneur*, is got y all over the country; riding abroad on busior pleasure commences; visiting is in active play een friends, neighbours, and relatives; regular city town balls, and irregular pic-nic country parties re each guest brings his dish), are quite the rage; after dining, dancing and supping, and dancing , the wintry morning dawn is often ushered in the festive glee is yet at its height, and a violent -storm blockades the pic-nickers until broad daynables them to carriole towards home, over the ound rivers and waves of snow, in all the enjoyy which the lightest-hearted beings can be supposed ble of, and considering the hardships and the inveniences of the moment as a zest to the more staid fashionable routs of Quebec and Montreal.

ravelling over frozen rivers or lakes is not unatd with danger, for it sometimes happens that the h, its horses, and passengers, are engulfed and id beneath the ice. Fortunately, the thin or weak s of the ice are in general of no great extent, and ost instances the passengers are able to leap from vehicle to a part sufficiently firm to bear them. Canadians have a curious contrivance for saving horse on these occasions. A rope, with a running e round the neck of the animal, is part of the furre of every carriole. As soon as he sinks in the the driver pulls this rope till he strangles him, or ast so far deprives him of sensation that he can no r struggle. The poor horse is thus, by a severe oss, prevented from doing that which would sink deeper in the broken ice, and, when the passengers safe, he is pulled upon the firm ice, the rope is ned, respiration re-commences, and generally, in w minutes, he is carrioling away again, as well as . This singular and almost incredible operation been known to be performed two or three times y on the same horse; and the Americans say that, Irishmen, the animals are so used to being hanged, they think nothing about it.

he other British possessions in North America are a Scotia, New Brunswick, Prince Edward Island, Breton, and Newfoundland; the last, however, is sland in the Gulf of St Lawrence, and unsuitable he settlement of emigrants. The whole lie within 41st and 51st degrees of north latitude, and from t the 54th to the 68th degree of west longitude. se countries are not so warm or genial as Upper ada; they are what Scotland is to England—more ed and mountainous, and more unpromising in their ines; but they are not less healthy and pleasant, they possess the advantage of being the nearest nial possessions of Great Britain, with the likelihood emaining longest under its paternal government.

NOVA SCOTIA.

ova Scotia is a peninsula connected with the main- by a narrow isthmus. It measures about three

hundred miles in length, but is of unequal breadth; altogether, it contains 15,617 square miles, or nearly ten millions of acres. One-third of this superficies is occupied by lakes of various shapes and sizes, spread in all directions on the face of the peninsula. There is no part of the land thirty miles distant from navigable water, and in all parts there are fine streams and rivers. The southern margin of Nova Scotia is broken and rugged, with very prominent features, deep indents, and craggy islands. The features of the northern coast are soft, and free from rocks. It is bounded on the north by part of the Gulf of St Lawrence, which separates it from Prince Edward Island; on the north-east by the Gut of Canso, which separates it from the island of Cape Breton; on the west by the Bay of Fundy, which separates it from New Brunswick; and on the south and south-east by the Atlantic Ocean. Nova Scotia was first settled by the French in 1603, and till 1712 it was alternately possessed by the French and English, when the latter became its permanent possessors.

The soil of a country of such extent and such varied features as Nova Scotia, must necessarily be various. If an imaginary line be drawn, dividing the province in the exact centre, from east to west, the north-western half will be found to contain by far the greatest portion of good land. On the side towards the Bay of Fundy, the soil is very rich and free from stones, and contains many thousand acres of dyked marsh land. This is alluvial land, and is made by the deposit of the tides, a sediment composed of the finer particles of soil, brought away by the rivers and torrents in their course to the Bay of Fundy, of putrescent matter, salt, &c. This land, called marsh, after it has attained a suitable height, is dyked, and the waters of the rivers excluded. Nothing can exceed its fertility. In many places, particularly about Windsor and Truro, it yields three tons of hay per acre, and has continued to do so without manure for fifty years past. There is a difference in its quality. Where the water which overflows it is not much enriched by a long course through the country, it is thin, and of an inferior quality. The quantity of land enclosed in this manner is very great. At the head of the Bay of Fundy, there are seventy thousand acres in one connected body. There is one marsh in Cumberland containing nearly as much land as Romney Marsh in Kent, and of a quality vastly superior. There is something peculiarly agreeable to cattle in the grass growing upon these marshes, which has a wonderful tendency to fatten them. This land is found in great quantities in Cumberland, Macan, Napan, Londonderry, Truro, Onslow, Shubenacadie, Nine Mile River, Newport, Windsor, Falmouth, Horton, Cornwallis, Granville, Annapolis, &c. The next best quality of land is earned by a term peculiar to America, *intervale*, an alluvial soil made by the overflowing of large fresh-water brooks and rivers in the spring and autumn. The quantity of intervale is inconsiderable. It is to be met with in every part of the province, and is frequently found covered with a long natural grass, several feet in length, and is sometimes called wild meadow. The quality varies according to the size of the brook or river by which it is made, but in general it is very fertile and rich. The upland varies so much, that it is difficult to give a general description of it, but one fact deserves notice, from its extraordinary quality. It commences at Cape Rouladin in Cornwallis, and runs in one continuous range of high land northward one hundred miles in the direction of Digby, and varies from three to seven miles in breadth. It is a very strong soil, and, with the exception of a small excellent quality in Onslow, produces wheat and other grains in abundance. It sometimes has the land a very stony, and requires great exertion to render it fit for cultivation.

The mineral products of this part of America are *valuable*: Limestone is found in quality of every kind, *as coal, which is found at Sydney, in Cape Breton, to a great extent, and of better* quality than in any part of America; it is as highly valued as that from castle in England, and will bring as good a price market. In the district of Pictou, coal is disc in many places. There can be no doubt, the that the possession of this mineral will constitu of the chief advantages of these provinces over other. Limestone, freestone, and slate, abound, best qualities, and there is plenty of fine clay for Iron ore has also been discovered in several The province has no animals of a troublesome There are foxes, mice, squirrels, and rats. Amo feathered tribe there are a number of birds of th kind as in Britain, including those called game country, all of which may be shot and used a without any restriction. The only troublesome are the musquitoes and black flies, which are th ment of America; but they disappear in a great sure as the land becomes cleared and drained. be added, that the rivers abound with the fine among which are salmon and trout; and the yield large supplies of white and shell fish of di kinds.

It has been the peculiar misfortune of this p of the North American continent to be represen almost every writer as a gloomy, sterile regio stantly enveloped in fogs which obscure the su impede vegetation; whereas nothing can be mo tant from the truth. This strange representati only be accounted for, by supposing that the tra who have visited it did not extend their investig farther than the vicinity of Halifax, where the la a bleak and by no means agreeable aspect; but only a local characteristic, and the interior e much fine land, with a pleasant climate. The is generally covered with snow from the 25th cember till the 5th of March, in which respect it resembles Upper Canada; and during this the farmers draw upon sledges their wood and from the forest, and carry their produce to m It is difficult to say when spring commences, rather late and irregular in its approaches. vegetation does begin, it is very rapid, and two o days make a perceptible change in the amount foliage. The summer heat is moderate and r and by no means oppressive, nor so long-continued a week of very warm weather. The autumns are nearly as genial as the temperature in the middle day is similar to that of August in Britain, bei by a mild, clear, calm, and dry air, which gives cheerfulness to the spirits. This weather co sometimes not till the latter December, the evenings being, however, a little severer. At the eastern coast of Nova Scotia is generally finer and superior; but there are many of these epidemic disorders with which other countries frequently afflicted. Although the waters are good, they are not so strongly charged as the raw at other waters of less purity, nor nearly so humanity. Horses, cattle, sheep, and swine, during part of the year, may have only private a some degree of care and attention to their comfo and at most a small quantity of straw and hay. We have already mentioned the mildness of the climate, and the consequent saving of fuel. In the country is greatly by the extensive woods of the settlers. In ploughing, and agriculture in general, the large implements of husbandry commonly required, the p the country causes the scarcity of species. In the spring, when the ground is attaining a moderate degree of dryness, and time is precious, and when every hand should be devoted to the labours of the plantation, horses are employed in the most laborious operations. These horses, at this season, get no spiritous liquors, which is the true cause of the backwardness of the country as respects its territorial improvement.

Few parts of the world are so well watered as Nova Scotia. The rivers, brooks, springs, and stre

and in fish, while along the coasts cod, haddocks, ing, and other fish, are yielded in plenty to the erprising fisherman. The resources of the province thus inexhaustible, and, according to Macgregor, hable to the maintenance of at least three millions of abitants. As yet, New Brunswick has a small popu- on, and the principal settlements are along the River John and its lakes. On the northern side of the rance to this large river from the Bay of Fundy, nds the town of St John, the largest in the province, ugh not the capital. Fredericton, the metropolis l seat of government of the colony, is situated nearly nty miles above St John's, on the same river; it is l a village in appearance. The chief buildings are government house and a college.

The province of New Brunswick presents an exten- line of coast to the Gulf of St Lawrence on the east, le on the north it has part of Lower Canada, which arates it from the River St Lawrence upwards. Its ant capabilities for carrying on trade with the inte- r are thus very considerable. Miramichi is the chief er after the St John. It falls into the Gulf of St rence, and is navigable for large vessels for about ty miles. Along its banks, here and there, are seen huts and houses of settlers, who have not made at advances in cultivation. The cutting and export timber form the main trade of the district. About nty miles up, on the south bank, is seen the village Chatham, where many of the ships load, and where eral of the merchants are settled, who have erected es and wharfs. Four miles farther up stands the age of Newcastle. The Miramichi River divides into great branches. "On coming down the south-west anch (says Mr Macgregor), in the autumn of 1828, n where the road from the River St John joins the ramichi, about eighty miles above Chatham, I was onished at the unexpected progress made during so rt a period in the cultivation of the soil. Near where road parts off for Fredericton, an American, pos- sing a full share of the adventurous activity of the zens of the United States, has established himself. told me that when he planted himself there, seven rs before, he was not worth a shilling. He has w (1829) more than three hundred acres under cul- ation, an immense flock of sheep, horses, several es of oxen, milch cows, swine, and poultry. He has rge dwelling-house, conveniently furnished, in which lives with his family and a numerous train of la- rers, one or two other houses, a forge, with a power- trip-hammer worked by water power, fulling-mill, st-mill, and two saw-mills—all turned by water. ar these, he showed me a building, which he said he cted for the double purpose of a school and chapel, floor of which was laid, and on which benches were anged so as to resemble the pit of one of our theatres. said that all preachers who came in the way were come to the use of it. An English parson, a Catho- priest, a Presbyterian minister, or a Methodist acher, should each, he said, get something to eat at house, and have the use of the chapel, with equal isfaction to him. He then showed me his barn, and one place a heap, containing about ninety bushels of dian corn, that grew on a spot (scarcely an acre) ich he pointed out to me. This man could do little re than read and write. His manners were quite un- lished, but not rude; yet he had wonderful readiness address, and, as far as related to his own pursuits, ick powers of invention and application. He raised ge crops, ground his own corn, manufactured the x he cultivated and the wool of his sheep into coarse ths; sold the provisions which his farm produced, d rum and British goods, to the lumberers; kept a ern; employed lumberers in the woods, and re- ved also timber in payment for whatever he sold. made the axes and other tools required by the mberers at his forge; he ate, gambled, and associated th his own labourers, and with the lumberers, and others, who made his house a kind of rallying pow- appeared, however, to be a sober man, and a per-

son who had in view an object of gain in every thing he engaged in. He talked much in praise of the rich interior country, and how rapidly it would be settled and cultivated, if possessed by the Americans."

PRINCE EDWARD ISLAND.

This rich and productive island is situated in the Gulf of St Lawrence, betwixt Cape Breton on the east and New Brunswick on the west, and is separated from Nova Scotia on the south, by a strait of about nine miles in breadth. It measures 140 miles in length, and is 34 at its greatest breadth. The general appearance of this island from the sea is level, but, on landing, the scenery is varied with gentle undulations. It abounds with streams and lakes, and in many places it is indented with bays, no part being more than eight miles from the sea. The soil is in general fertile, yielding good crops of wheat and other grains; and parsnips, turnips, carrots, potatoes, and almost all the common culinary vegetables, succeed well. This island has been recommended to such emigrants as possess a knowledge of agriculture with that of the curing of fish. The climate of Prince Edward Island is in some respects similar to that of the neighbouring countries. The winter is said to be shorter than in Lower Canada, and the atmosphere is noted for being free of fogs. Agricultural operations commence about the beginning of May, and the harvest is generally over by the end of October. The chief disadvantage this colony labours under, and which is equally applicable to the others near it, is the great length of the winter, which obliges the farmer to lay up a very large stock of hay for supporting his live-stock. The sudden manner, also, in which spring comes on, abridges the period for sowing and planting, thus leaving the agriculturist comparatively idle at one season, and obliging him to work severely at another. The inhabitants are chiefly from Great Britain and Ireland, with a few Dutch and Germans. Mr Macgregor characterises them as hospitable, kind, obliging, and as, generally speaking, a moral people. The island is governed by a lieutenant-governor, council, and house of assembly consisting of eighteen members, who are elected by the people. Charlotte Town, the capital, is situated on the north bank of the River Hillsborough, on the east side of the island. The town stands on ground which rises in gentle heights from the banks of the river, and its harbour is considered one of the best in the Gulf of St Lawrence. A small group of islands called the Magdalens, have been recently annexed to Prince Edward Island, chiefly as fishing establishments.

PERSONS WHO OUGHT TO EMIGRATE.

"The persons who may be inclined to emigrate to Upper Canada," says Howison, "are of three different descriptions, namely, the poor peasant or day-labourer; the man of small income and increasing family; the man possessing some capital, and wishing to employ it to advantage. Persons of the first class never would repent if they emigrated to Upper Canada, for they could hardly fail to improve their circumstances and condition. The poorest individual, if he acts prudently and is industrious, and has a common share of good fortune, will be able to acquire an independence in the space of four or five years. He will then have plenty to eat and drink, a warm house to reside in, and no taxes to pay; and this state of things surely forms a delightful contrast with those hardships and privations which are at present the lot of the labouring population of Great Britain.

It is evident that some descriptions of emigrants will succeed better in Upper Canada than others. Those who have been accustomed to a country life and to country labour, are of course more fitted to cultivate land, and endure the hardships at first attendant upon a residence in the woods, than artisans or manufacturers, whose constitutions and habits of life are somewhat unfavourable to the successful pursuit of agriculture. But every individual, who to youth and health joins perseverance and industry, will eventually prosper. Mechanics cannot fail to do well in Upper Canada; when not employed in clearing lands, they will find easy to gain a little money by working at their professions; and they likewise have the advantage of being able to improve their dwelling-houses, and repair their farming utensils, at no expense. Weavers, being ignorant of country affairs, and unaccustomed to bodily exertion, make but indifferent settlers at first, and their trade is of no use to them whatever in the woods. Married persons are always more comfortable, and succeed sooner, in Canada, than single men; for a wife and family, so far from being a burden there, always prove sources of wealth. The wife of a new settler has many domestic duties to perform; and children, if at all grown up, are useful in various ways."

Every candid traveller in Canada concurs in these views; and it may be observed, that they are equally applicable to the other districts noticed in this work. "Of this, I think," says Fergusson, "there can be no doubt, that either the moderate capitalist, or the frugal, sober, and industrious labourer or artizan, cannot fail of success. *Fortunes* will not be rapidly or even readily acquired; but it must be the settler's own fault if he does not enjoy, in large abundance, every solid comfort and enjoyment of life, and rear around his table even a *forest* of 'olive plants,' without one anxious thought regarding their future destination or provision."

PASSAGE.

There are two ways of proceeding to Canada—by the St Lawrence, Quebec, and Montreal; and by New York and the Erie Canal. The passage by the St Lawrence is tedious and troublesome, and we recommend all who can conveniently do so, to take ship direct to New York; from that city they will at once go on by a steam-boat on the Hudson River to Albany, and from Albany be conveyed in a track-boat on the Erie Canal to Lake Erie, where they will find steam-boats ready to convey them in all directions. For those who prefer the passage by Quebec, the following information is given by an official pamphlet:—"Passages to Quebec may either be engaged inclusive of provisions, or exclusive of provisions, in which case the shipowner finds nothing but water, fuel, and berth places, without bedding. Children under fourteen years of age are charged one-half, and under seven years of age one-third, of the full price; and for children under twelve months old no charge is made. Under these conditions the price of passage from London, and from places on the east coast of Great Britain, has generally been L.6, with provisions, or L.3 without. From Liverpool, Greenock, and the principal ports of Ireland, as the chances of delay are fewer, the charge is somewhat lower [we would here strongly advise emigrants to sail, if possible, from a port on the west coast, as being a great saving of time, trouble, and expense]; this year the charge will probably be from L.2 to L.2, 10s. without provisions, or from L.4 to L.5 including provisions. [Emigrants intending to settle in New Brunswick, Cape Breton, or Prince Edward Island, will generally obtain a passage in the vessels bound for Canada; and ships for Halifax or Pictou in Nova Scotia are constantly sailing from the British ports.] In ships sailing from Scotland or Ireland, it has mostly been the custom for passengers to find their own provisions; but this practice has not been so general in London, and some shipowners, sensible of the dangerous mistakes which may be made in this matter through ignorance, are very averse to receive passengers who will not agree to be victualled by the ship. Those who do resolve to supply their own provisions, should at least be careful not to lay in an insufficient stock; fifty days is the shortest period for which it is safe to provide, and, from London, the passage sometimes prolonged to seventy-five days." Having wound up his affairs in this country, and otherwise prepared himself and family for proceeding to the land of their adoption, it is recommended that the emigr-

th and rhubarb pills; 6 lbs. of epsom salts, and 1 of senna—these medicines are very dear here; tin to fit the stove of the ship, and it is convenient to e one for hooking on the bars of the grate when the of the fire is occupied; kettle for making coffee,

Use no crockery, but instead, jugs and bowls of ; broth pot, frying-pan, and tin kettle."

he best months for leaving England are certainly rch and April. The names of the vessels to sail generally advertised in the newspapers. The nse of passengers to the British possessions in rth America is regulated by an act of Parliament Geo. IV. cap. 21), of which the following are the cipal provisions:—Ships are not allowed to carry sengers to these colonies unless they be of the height five feet and a half between decks, and they must carry more than three passengers for every four s of the registered burden; there must be on board east fifty gallons of pure water, and fifty pounds of ad, biscuit, oatmeal, or bread-stuff, for each pas- ger. Masters of vessels who land passengers, unless h their own consent, at a place different from that ginally agreed upon, are subject to a penalty of L.20, overable by summary process before two justices of peace in any of the North American colonies. The orcement of this law rests chiefly with the officers her Majesty's customs; and persons having com- nts to make of its infraction, should address them- res to the nearest custom-house.

f the emigrant prefers taking a passage to New York, should make particular inquiry respecting the vessel is to sail in, as the above law does not apply to ships rying passengers to the United States. We know of oung man with a small capital, who sailed from a t in the east coast of Scotland for New York, in a sel which was afterwards discovered to be not sea- thy. After beating about for three or four weeks he Atlantic, the vessel was driven through the Irish nnel, and had to put into the Cove of Cork to dergo repairs. The passengers were obliged to work watches at the pumps, and six weeks were expended ore the vessel really proceeded on her voyage, be- s having to purchase a new stock of provisions. To id a similar disaster, we would advise the intending igrant to inquire into the character of the vessel at office of the company with whom she is insured, and making any agreement with the captain, to be par- ular in having it in writing. He should stipulate for use of all conveniences in the ship; and also not to obliged to land for at least twenty-four hours after ting into port.

LANDING.

Previous to disembarkation, arrange your baggage a small compass, the fewer packages the better, but re them well secured—old dirty clothing, large boxes, l other useless articles, are not worth the carriage. you have any provisions left, such as oatmeal, pota- s, &c., you can sell them at Quebec at a profit, and id the expense of transport, and you can purchase kers' bread, butter, tea, sugar, and other necessaries re suited for your journey. All sorts of provisions y be bought cheaper, and generally of a better qua- , in Montreal and Upper Canada, than at Quebec. ess yourself in light clean clothing. Females fre- ently bring on sickness by being too warmly clothed. t your hair short, and wash daily and thoroughly. oid drinking ardent spirits of any kind, and, when ated, do not drink cold water. Eat moderately of tery food. Avoid night dews. By attending to the ceding directions, sickness will be prevented, with er serious inconveniences. When every thing is dy for disembarkation, and if the ship is lying at chor in the river, take care in passing from the ship the boat; avoid all haste, and see that your baggage n the same conveyance with yourself, or left under charge of some friend, with your name on it. If ship hauls to the wharf to disembark, do not be in urry, but await the proper time of tide, when the

ship's deck will be on a line with the quay or wharf. Passengers are entitled by law to the privilege of remaining on board ship forty-eight hours after arrival; and it is unlawful for the captain to deprive his passengers of any of their usual accommodations for cooking or otherwise; you may therefore avoid the expense of lodgings, and make all your arrangements for prosecuting your journey. If, previous to disembarkation, sickness should overtake you, proceed immediately, or be removed, to the Emigrant Hospital, in St John's Suburbs, where you will be taken care of, and provided with every thing needful until restored to health. Medicine and medical advice can also be had at the Dispensary attached to the Quebec Charitable Emigrant Society. This society will grant relief to all destitute emigrants. In Montreal there is a similar institution for the relief of emigrants. It is particularly recommended to emigrants not to loiter their valuable time at the port of landing, but to proceed to obtain settlement or employment. Many emigrants will find employment in the city of Quebec and its vicinity, as also in and about Montreal. Single men, in particular, are advised to embrace offers of this kind; but emigrants with large families had better proceed without delay to Upper Canada, as hereafter directed, or to situations in Lower Canada, particularly the eastern townships; and if they have sons and daughters grown up, they will find a sure demand for their services. Artificers and mechanics of all denominations, and farming labourers, if sober and industrious, may be sure of doing well. Blacksmiths, particularly those acquainted with steam-engine work, also good millwrights and sawyers by machinery, are much wanted in the Canadas. The current rate of wages lately paid to carpenters, masons, and other artificers, was from 3s. 6d. to 6s. or 7s. per day, according to circumstances; farm-labourers were paid at a lower rate. There is no demand for persons skilled in any of the ornamental professions, or for the preparation of articles such as are usually imported from England. A great number of labourers are usually employed on board ships, and about timber-yards, at Quebec and Montreal, who get from 3s. to 4s. 6d. a-day, and board generally found. The extravagant habits engendered in such occupations render it decidedly preferable for the labouring emigrant to proceed immediately to the country. Emigrants with families, and who are possessed of from L.20 to L.25, are advised to push immediately into the woods, in the vicinity of old settlements, where they can obtain provisions for their spare labour. The most vexing circumstance connected with money matters, is that the currency of the whole of British America is different from that which prevails in the United Kingdom; in other words, a shilling in England is different from a shilling in Canada. The money of Canada is locally of higher nominal value than what we understand by the term *sterling*, and is called Halifax currency. The difference varies; but it may be stated in general terms, that an English sovereign is reckoned to be worth 24s. or 24s. 6d. currency; or an English shilling is equal to about 1s. 2¼d. or 1s. 3d. currency. If you take English money to Canada, you will receive these high prices for it; but if you wish to turn currency into sterling, for the purpose of sending it home, you will incur a corresponding loss. All wages are, of course, reckoned in currency; therefore, when it is said you will receive 4s. a-day of wages, the actual value of this 4s. is only 3s. sterling. This distinction between currency and sterling will soon be learned, and is on the whole of less consequence than the practice of paying wages in goods. We have heard very serious complaints on this subject. From all we can learn, it is not uncommon for an employer to pay his workmen by an order for goods on a store, corresponding to the amount bargained for; and such is the high price at which articles are sold, that sometimes a workman, instead of getting 4s. a-day, does not in reality get more goods than he could buy for 1s. 6d. in England. Thus an apparently high wage dwindles down to a trifle.

Perhaps such p[illegible] e not resorted to by [illegible] able employers, [illegible] only prevail in parts country where a circ[illegible]g medium is scarce; have considered it pr[illegible] to mention the circum in order to put em[illegible]s on their guard. ascertain whether you are to be paid in cas goods, and act accordingly.

Having arranged all your business at Quel will proceed without loss of time to Montr steam-boat, on your route to Upper Canada steam-boats ply (or lately plied) to Montreal, 1 up the St Lawrence, which is performed in fro 30 hours. Take care not to engage a passage vessel from which you and your family will be occasionally to come out and walk; we have l disgraceful instances of this kind of cruelty. T on board the steam-boats were lately as follow may now be a little altered):—Deck passengers, 7s. 6d. each; children under twelve years of a price; and under seven, one-third. The rou fares to the principal places were lately as follo

Quebec to Montreal, by steam-boats,	7s
Montreal to Prescot, by Durham boats,	6s
Prescot to Kingston, by steam,	5s
Ditto to Coburgh, or Port Hope,	7s
Prescot to Toronto, capital of Upper Canada, Hamilton, and Niagara,	10s

From Niagara you proceed by the Wellan to Fort Erie, opposite Buffalo on Lake Erie, steam-boats, or sailing schooners, will conve destined to Port Talbot, or other parts of the district, or vicinity of Lake St Clair. Persons settle on the lands of the Canada Company will to York or Burlington Bay, head of Lake Onta

At most of the preceding towns and landing you will find government agents. If you are b Perth, or New Lanark, or the vicinity, disem Prescot; or you may go by Bytown on the Otta

If for the thriving settlements in the Newca trict, disembark at Coburgh or Port Hope, o Ontario. Those going to the townships of Seymo proceed from Kingston, by the beautiful Bay of to the mouth of the Trent River, from whence distance 18 miles, brings you to Seymour. If p ing to the Home or Western districts, disem Toronto, the capital of Upper Canada. Emigrant any where beyond Toronto, will in general find interest to make this their route. If for the district, proceed by the Niagara frontier to Lal and the Talbot Settlement. If for Bytown, Gr Hull, Horton, or other situations on the Ottawa proceed from Montreal and Lachine by the usu veyances. Such are the directions that were time since suitable; but as there are continual ch emigrants may find it necessary, on their arr act more by local information than any thing say on the subject.

We think it important to mention, for the ben the poorer class of emigrants, that there has for some years in Montreal a benevolent society o local importance, called the Canada Emigration ciation. This body of individuals, actuated by h motives, and desirous of forwarding labourers to where their services are required, affords ready ance to poor emigrants on their arrival at Mo It appears that, from the 11th of June 1840 close of the navigation by frost a few months lat society relieved 322 natives of England, 8778 of Ireland, 397 natives of Scotland, and 10 from many; total, 9507. Of this number, 201 were sixty years of age, and 587 were infants. The consisted in furnishing provisions and a humble lodging in sheds, also medical attendance, and pa of passage of individuals and families to places interior. The emigrants were greatly benefited by sent off without loss of time, as they were there only saved from the danger to their health and which would have been incurred by remaining length of time idle in a large city, but their tim

ers from selecting this province as their home. It rged that nearly all the lands within the settled incts of the province have passed into the hands of ate individuals; and that the new emigrant must ssarily go far into the depths of the forest, remote the peopled settlements, where, whatever may be excellence of his land, he will be remote from ets, mills, roads, or the means of procuring labour upplies, during the first years of his residence.

hese difficulties have existed to a great and distening extent, sometimes so as to induce a settler abandon his possessions. It is true, also, that a great portion of the land, especially in the older surveyed nships, comprehending the choicest locations in the hbourhood of roads and navigable waters, now be- s to private individuals; and it is this very fact enables the association to be of the most essential fice. These tracts are at present unproductive to owner, and if retained in their wild state, with the to their owners' obtaining higher prices, would inose such a serious obstacle to the settlement of the ntry, as might well justify the legislature in impos- a tax upon lands kept unimproved from so selfish narrow a policy. The association are happy in wing, for many of such proprietors are among its zealous members, that such lands generally re- in their profitless fertility, only because the hand an is wanting to turn them into productive corn- s and animated pastures; and that, if their fellow- ntrymen were here to make use of them, they would happy in giving to them portions equal to their ost wants, without money and without price; yes, every other aid which could tend to their future antage. And this, too, without any affectation of erosity on the part of the members of the associa- ; for they are well aware that, by the settlement and tivation of a portion of their lands, the adjoining t will become better worth the purchasing by future migrants, or by the settler himself, when he shall have ome prosperous.

his system of free grants of portions of private pro- ties scattered over the whole province, and therefore senting endless choice of locality, in respect to pre- us settlement of friends, &c., to such persons as have money to pay, or having small means, might, more eficially to themselves and the country, apply them accelerate the improvement of the land, forms the ncipal feature in the scheme of the association, by ich they hope to be useful to their countrymen. But s only one: there are cases where not only the poor, even the comparatively affluent settler, has had to counter difficulties which might well dishearten him, l even drive him to abandon his enterprise. Many mbers of this association have had practical knowge of the evils which they are now intent upon avert- from others; and are desirous of giving their exience without its price. The establishment of their gistry-Office for the sale of lands not devoted to the ove-stated object, and for supplying accurate infortion, statistical and otherwise, will be found of great to such as are beyond the necessity of receiving other kind of assistance; while, in locating those o shall be disposed to accept of their land, they will efully avoid the evil before mentioned, of sending m where they will be isolated and solitary, but under h an arrangement as will ensure to each the comts of society while he is engaged in the first, and in cases the most discouraging task he has to encoun- —subduing the forest."*

We may learn from these extracts that the Canans are now fully alive to the necessity of procuring teady supply of labourers as well as settlers to clear grounds, by which alone the country can be exted to develop its great resources.

Emigrants, on arrival, will find no difficulty in discovering names and places of abode of the agents of the Immigration iety: they are settled in most towns of the province, and we not doubt that they will give friendly advice and assistance to who present themselves.

SALE OF LANDS.—SETTLEMENT.

The mode of selling crown lands in the British North American possessions is far from satisfactory, the principle still pursued being to have periodical auctions of land at upset prices, by which the emigrant has in the first place to wait for the occurrence of the sale, and after all, when it takes place, he perhaps finds himself outbidden in price. This is a most serious evil, which government appears to be in no haste to remedy. On applying for information on the subject at the Colonial Office (December 1840), the following has been handed to us, and it may therefore be considered authoritative:—

"The regulations for the sale of crown lands in Canada, Nova Scotia, &c., are as follows:—In Lower Canada the public lands are henceforward to be sold at a fixed price. In the country of Ottawa, and in the country on the south bank of the St Lawrence as far as the Kemaba road, the price is for the present fixed at six shillings per acre, and for the remainder of the province at four shillings. In Upper Canada, lands continue to be sold by public auction, at an upset price to be fixed from time to time by the lieutenant-governor in council. This price varies according to the locality; but the average price of land in 1836, 1837, and 1838, was eight shillings per acre. In Nova Scotia, lands are sold the same as in Upper Canada, the price being at the discretion of the lieutenant-governor in council; but by a local act, it is in no case to be less than one shilling per acre. In New Brunswick the upset price is fixed at two shillings and sixpence per acre."

Such being the very unsatisfactory manner in which crown lands are disposed of in Canada and other parts of British America, we strongly recommend emigrants with only a small capital, either to employ themselves as servants till a sale occurs, or till they can hear of a cheap and commodious lot. At all times there are small farms, partially cleared, for sale, and in many instances these are preferable to crown uncleared lands. In making a selection and purchase, keep in mind the following points:—See that there is a tolerable road to the property; that it is not too far distant from a town; that it is not environed with clergy-reserve lands, which, being uncleared and without roads, except you assist to make them, are a nuisance; that you will have decent neighbours (English or Scotch, if possible); and that the district possesses a place of public worship, and school, or will shortly have them. Supposing you discover a place possessing a fair share of these recommendations, we advise you, above all things, not to buy it partly on credit, from a land-dealer or general possessor of property. Either do not purchase it at all, or pay for it at once, and get a good title to the property. If you allow a part of the price to remain unpaid, with the hope of liquidating your debt in the space of a year or two, you may almost surely rely on being turned out when the instalments come due, thus losing all you have paid, and all the labour you have expended. There are many landowners in Canada who make a regular trade of getting emigrants into their power in this manner, and turning them adrift after completely ruining them. Our next advice is one equally important—never, on any account whatever, take credit at a store. To do so, is the almost certain commencement of ruin. The store-keepers generally are glad to give credit to poor landowners; for, by a peculiar law of the country, they can attach the land for the amount of their claim, no matter how small it be; and as *cash* may not at a moment's notice be easily obtained, the settler may be speedily and in form of law stripped of all he possesses, and the store-keeper become the owner of his little hard-won territory. So dreadful is the effect of getting into debt in Canada, that we have heard of cases in which the families of poor but shrewd settlers have lived during winter on little more than a few potatoes per day, rather than incur a debt of a few shillings to the next store-keeper.

The difficulties at first in fixing and settling upon a farm are very great—much greater than one in this country has any idea of; but by prudent and diligent management, no one need despair, and in the end a state of comfort will unquestionably be attained. Having acquired property, the first thing you have to do is to select a favourable spot for your log-house, which should be near a spring of water or running stream, and where a *cellar to keep your potatoes in winter can be dug under the house*. Carefully clear the timber and brush to a distance from your dwelling and out-buildings, or, in the event of fire in the woods, great risk is incurred of their being destroyed. If you proceed to build house and clear lands on a large scale on first arrival, it rarely succeeds so well; for the price of labour is so high, and the difficulty of getting persons to work, added to the great expense of providing food for increased numbers until produced from your own land, ought in every instance to induce caution in laying out money; but a crop of potatoes and fodder for a cow is the first object, and this may be accomplished the first year, if you arrive early. The second you will be enabled to supply your family with the necessaries of life from your own grounds; and the third year you may find yourself possessed of a yoke of oxen, a cow or two, and a year-old calf, a couple of pigs, poultry, an abundance of provisions for your family, and fodder for your cattle. The Irish and Scotch peasantry know well how to value the economy of a milch cow; every new settler ought to strive to obtain one as early as possible, taking care to provide a sufficiency of food for the long winter. Cattle require a little salt in Canadas. It is not considered necessary to go further into the details of the first settlement, as on all these points you will be guided by your own observations on the spot, and the advice you will get from the land agents and superintendants.

ACCOUNTS GIVEN OF THESE COUNTRIES BY SETTLERS.

We quote the following letter from Upper Canada from the United Service Journal:—

"Dear ——, You wish me to give you some account of Canada, and I will endeavour to do so; and if the little that I have to say on the subject does not tend to instruct, it will, I hope, serve to amuse you, and enable you to form correct ideas of this remote but interesting corner of the world. I may not possess extensive information upon every subject connected with Canadian affairs, nor do I wish to tire you with lengthened or studied details. Having resided many years in Upper Canada, and circumstances having obliged me to consider it my adopted country and home, I have grown imperceptibly attached to the rough life of a woodsman; but I will endeavour to divest myself of prejudice, and hope to be able to present you with a plain unembellished account.

Emigrants coming to Canada generally entertain very erroneous opinions; their information having been collected from the writings of people who have little knowledge of the country, or are governed by interested motives: they come full of romantic whimsical notions, but perfectly ignorant of the country they are about to inhabit, and of the trials that await them. On their arrival, they ought to abstain from eating new potatoes, green peas, unripe fruit, &c., or use them in moderation; for many, on their first arrival, are afflicted with dysentery, which, I am confident, is occasioned by the greediness with which they devour vegetables of every kind, after being confined for a few weeks to the use of salt provisions. Fever and ague are common complaints all over America, but seldom prove fatal. They generally make their appearance in new settlements, in four or five years after we have commenced clearing land, rage for one or two years, and then almost wholly disappear. They are probably to be attributed to the foul vapours arising from the decayed stumps and roots of trees and other vegetable substances. Intermittent and other fevers are common in the neighbourhood of large marshes

nant ponds. Emigrants ought to avoid such

sixteen years ago, a number of families came
agow and its neighbourhood. They were as-
r government, and settled in the district of
. They were moral and industrious, and an
on to the country; but such was the bad
of the land selected for them, that many of
er struggling for years, abandoned their farms,
oved to other places. Clearing land is labo-
rk. The first thing we do is to underbrush it;
cut the young trees and bushes close to the
and put them together in large heaps. The
for underbrushing is when the leaves are on,
the snow falls; for when the snow is on the
we cannot conveniently cut the bushes low;
cut the trees down; the small branches are
upon the brush heaps, and the trunks are cut
of about twelve feet each; good straight logs
sh, cedar, and some other kinds, are reserved
verted into rails. The cutting of the timber
chopping, and is mostly performed in the
s we have then most leisure: when the brush
e sufficiently dry, they are set on fire. Log-
t commences.
s are numerous, and are very destructive to
d occasionally to young cattle. I have heard
attacking travellers; but upon inquiring into
orts, have always found them mere fabrica-
ough I know two instances when travellers on
k have seen wolves in the middle of the road,
trying in vain to frighten them away, or urge
ses forward, have been obliged to turn back.
net them when travelling alone and unarmed
the woods, but never was even menaced by
n winter, when oppressed with hunger, they are
gerous. The wild-cat, or cat-a-mount, in figure
strong resemblance to the domestic cat, except
l, which is not above two inches in length, and
ith black, as are also the ears; it is of the
lour as the wolf, and appears to be quite as
d powerful, though shorter in the legs: they
the tops of the tallest trees with facility, and
to be very fierce; they destroy sheep and other
animals. Bears are also numerous: they
principally on nuts and roots, and occasionally
great depredation in the fields of Indian corn;
walk off with pigs, sheep, and calves, when
t a chance. We have also beavers, racoons,
, and many other animals. Our woods abound
r, hares, partridges, pigeons, and many other
game. There are a great variety of ducks in
rs and marshes; and here, in the western dis-
have wild turkeys and quails; our rivers and
e equally well supplied with fish."

etter goes on to describe a number of snakes
re found in Canada, such as the water-snakes,
ome suppose to be venomous; two kinds of
akes, which are both very dangerous; there
garter snakes, copper-head snakes, and blow-
rs. These reptiles are only to be found in par-
districts, and with common precautions little
may be expected from them.

following letters are from a gentleman who
ear the township of Yorra, about a hundred
est from Toronto. He says—"I am installed
; 800 acres of clergy reserves and Canada Com-
ands contiguous, and am in treaty for 800 more
ivate individuals, which, one with another, will
e in fifteen shillings currency per acre. The
sides being bounded by the River Thames, is
at every half mile by streams running into it,
ngs giving the purest water; the land slopes
the south, and altogether is calculated to create
ion. I have set people to work, to chop, clear,
d fit the land in every respect for sowing, for
dollars an acre, or L.2, 15s. The fencing will
at the outside two dollars more per acre, and
one dollar and a half, making in all L.3, 12s. 6d.

My log-house, 34 by 22, and two storeys, will give me six good rooms at least for roughing in, and will cost me at the outside, to make it comfortable, not more than L.50. In this my friend and I will live during the winter, and until I get things prepared for building. We have every thing as comfortable and good to eat as the most reasonable man could wish; and barring pewter spoons for silver, horn-handled knives for ivory, our table would not blush to stand alongside one at home. I have made three trips to Toronto since our location, and bought a load of things each time. I must make three trips more, most likely, before winter, to complete stores, pick up labourers, and arrange for land. Well, with the whole of this hard work, much hard dealing, thought, and calculation, I grow more and more enthusiastic in favour of the country. Our climate is delightful, and our neighbourhood excellent and obliging. *I would not for twenty thousand pounds return to Scotland.* I want not money, but to lead a useful life. Now, Alexander, if you want to buy land for your boys, do it immediately." Here the writer enters into private details, so we pass on to his next letter. After giving some further account of his operations, he thus proceeds to speak of his toils:—"Riding fourteen miles to get lumber or sawn timber drawn, to ride to measure every cart-load myself, and to do at least one-half of what one at home would find people trustworthy enough to do for him, you will not wonder that the toils of a beginning are as numerous as they are weighty. However, I like the life amazingly. I find at all events some scope for my mind; and if there be difficulties to surmount, there is no little pleasure in overcoming them, and still greater in feeling one's self equal to it. I have just been buying a hundred bushels of oats at 11½d. a-bushel, so you know what oats may be had for; excellent apples, 7½d. per bushel; wheat is high this year—that is, a dollar a bushel; and butcher meat for 2½d. and 3d. per lb.; potatoes the same price as oats."

In another letter he says—"Since my last, I have removed to my new residence; and although, as I said before, I have to break my neck to get a view of the heavens overhead, get the cramp in my fingers from milking the cow in these cold mornings, follow the trail of my oxen when they stray, and be alternately plasterer, glazier, slater, delver, and chopper, so that my hands have become as hard as elm, and their shape like bullock's lights, with Bologna sausages for fingers—I am, for all this, as pleased as Punch, and even get fat on it. Indeed, I must say, I have been indefatigable since my adoption of my new calling; so that, if I don't succeed in establishing some degree of order, and management, and evidence of prosperity, 'twill neither be for want of activity, decision, good humour, or system." It is clear that this is the sort of person for a Canadian life. Again, in January 1834, he says—"I rise every morning at five o'clock, and awake the household; and while the servants are managing the breakfast, so as to get all comfortably over by daylight, I light the fire in our room, for I exact no service not absolutely necessary. I don't mean what you call *necessary* at home, but things of far lower estimate. My shoes, for instance, which are somewhat of the thickest, are well-greased twice a-week, instead of being blackened, which is very well for walking the streets, but of wondrous little use here. I have cut down twenty acres since my last, and am continuing the good work. We muster in all seven axes, and get through about an acre a-day; but as other matters interfere to take off my hands, I find I cannot average more than about twelve acres a-month. I see by my account with the bank that they have credited me with ——; and as money currency goes as far here as money sterling does in England, I calculate I am a gainer of rather more than a fifth by the transfer: that, with the high rate of interest, the cheapness of living, and exemption from taxes, makes me at least three times as rich a man as I was at home."

By the next letter, we find the writer equally pleased with the country, both as to soil and climate, and also

for its he
! was
He had now a good deal cleared,
his timber from twenty-five acres
had rented all that he had cleared
Scotland for a third of the crop, and
acquiring the means of a lasting inde-
with all the attributes of rural wealth
has been said that gentlemen should
to Canada—that it is a country only for
ople; but this idea is quite fallacious. The
is but one of many hundreds of gentlemen who, during all their lives before, had never soiled their fingers with labour; and yet we see what is the result. We venture to say that Mr R. is as active, and puts his hands to as much dirty and hard work, as would be the case with a person bred to rough country labour; while his education and intelligence lead him into the most advantageous course of operations.

Those who cannot immediately purchase land in Canada, sometimes put in grain along with that of any neighbouring farmer, and receive a share of the crop. "This being the case with me this year," says a writer of a letter dated January 1834, "one of my neighbours puts in two fields with me—one of rye, of which he does all the work except half the harvesting, affords half the seed, and gets half the crop; another of peas, of which he does all the work, affords all the seed, and gets two-thirds of the crop."

We quote the following from a letter written by a settler in the township of Nichol, Upper Canada, to a friend in Scotland, and which appeared in the Aberdeen Herald:—

"From the experience of myself and friends, I give my plain candid opinion on this matter, when I say to the emigrant newly come amongst us, beware of attempting to clear more than you have a rational prospect of finishing in time for the season of sowing or planting. Two acres well cleared are worth five acres indifferently finished; and if you can set about it by the first or second week in July, you may get two acres nearly ready to receive fall wheat. Should you attempt seven acres, unless you have a strong force and plenty of dollars, it is ten to one but you will fail of being ready in time; and if the spring is as backward as I have seen it, you would be too late for cropping them. Now, if you can get two or two and a half acres sown with fall wheat the first autumn you are in the woods, and get half an acre cleared for potatoes by the 15th or 20th of May, which may be quite practicable, and perhaps another half acre cleared for turnips by the 20th of June, I maintain there is a rational prospect of your eating the produce of your own farm during the second year of your settlement, and have as much as bring you to the next crop; but bear in mind, that during the first year you must buy in your provisions or work for them. Go on clearing for fall wheat during the summer, and perhaps you may get four or five acres ready by the second autumn; and if you can get the stubble burned off, when your first crop of fall wheat grows, by the 20th or 25th of May, next year you may get in a crop of barley without ploughing, and timothy-grass seed grown along with it, to give you a crop of hay during the third year. If you can get another acre or so cleared for potatoes, you will have some of them to dispose of after supplying yourself; and where turnips and potatoes grew the previous year, you may get spring wheat or oats sown the next. This may be a rational prospect of the fruits of your industry at the end of your third autumn or second harvest, and thus you may begin to feel yourself in a thriving way. This, however, brings me to speak upon the next matter for the emigrant's consideration—live-stock. If he can possibly afford it, he must endeavour to procure a cow to begin the world with. During the summer months, a cow gets her meat in the forest without costing the owner a farthing for keep; and for the other six months straw and turnips will be advantageous, but tops of trees, felled down for the purpose, seem to be the food they are instinctively inclined to prefer. The last, of course, costs the farmer the trouble of chopping them down, but as he may be engaged doing so purpose of clearing, he thus 'kills two dogs wi bone.' Clearing can scarcely be carried on the assistance of a yoke of oxen; but unless t grant can buy food m, I would not reco him to purchase ring the first autum rather hire a m oke to assist him wh where necessary, and he may have some more ragement to buy a yoke during the following ye the prospect of having some food growing fo You will unders and that I have been writing a *bush farming*, as it is called, and taking it for that I am addressing an intending emigrant who seised of a moderate supply of money. In fact, ing he had a considerable amount with him, still be nothing the worse for adopting the plan I h down. Were it possible to get a small cleared commence upon, it would perhaps be more a geous to the emigrant.

I now finish my letter by giving my opinion subject as a whole. If a man has firmness, p and fortitude, combined with perseverance a dence, he will in the course of a few years be qu fortable—I might say independent—even suppo set himself down in the bush at a considerable from neighbours; but if he could get the chan farm with four or five acres cleared upon it, recommend him to fix upon such in preference completely wild, unless he is careless of what neighbours he may be likely to have about him

Another letter, dated from Fort Erie, says—" is selling here for 5s. per bushel; oats, 1s. bushel; butter, 6d. per lb.; eggs, 6d. per dozen 2½d. to 3d. per lb. Servants' wages, L.2 to L.2, month, with board. Tea, 3s. per lb.; green tea, Potatoes are selling at 1s. per bushel; 350 bu an average crop per acre.

A farmer can settle here in style with L.500, a as good a table as any of our lairds; but of cour attend to his business and keep at home, as a here are much less to be depended on than the Scotland. I have seen a few persons in the ag they seem to think little about it; those on La are more liable to it than those on the lower la

Extract from a letter dated Sandwich, West trict, Upper Canada, which appeared in the In Courier:—

"In this district, after mature consideration, finally settled. Having at a very early period be nised by the French, and since that time vastly im by its numerous proprietary, it has all the com advantages of the mother country, with infinitely capabilities of supplying the raw materials. T tility of our soil is even here proverbial, and o duce superior in quality; so much so, that ou is uniformly a shilling ahead of any other. Al sides of the isthmus on which we are planted (f the Lake St Clair on the one hand, and Erie other, it almost is such), there is ready and che veyance by steam; while the Thames, a not majestic stream that intersects the interior, o the inland parts. Not even a tree is felled in motest parts of the country, but may be conve water to market. That of Detroit, on the An side, is flocked to from all parts of the Union an British possessions; and, both from the numbe attend, and the quality of the articles produ among the best in the country. There is abund woodcocks, snipes, and deer in the district.

But what chiefly fixed my determination w salubrity of the climate, which, compared with Lower Canada, and most parts of Upper, is imm ably superior.

We have abundance of room for settlers. W to sail down the Thames, for instance, and country along its banks studded with cultivated and closely shaded behind with the 'tall trees of n growth,' waving their majestic foliage to the h heaven, and seeming to court the hand of man

gaged for one year. My wages are not so high as
ch they will be when I become better acquainted
he climate of the country. Just now I have L.40
nums, and bed, board, and washing. I have three
of a garden, along with ten acres of apple orchard,
e charge of; and am assisted by two labourers
re constantly with me. The garden is surrounded
h brick walls, covered with peach and nectarine
The peaches here grow to a great size, and ripen
antly in the open air. The grapes bear well on
es in the garden. I had a fine crop of these,
ior to any I ever saw in the houses at home; and
melons are also surpassingly fine. I cut 300 of
ese melons from a small piece of ground not more
20 feet by 12. Some of them weighed 15 lbs., and
of them from 5 to 7 lbs. They require no atten-
care whatever. Just sow the seed in the open
n, and keep them clear of weeds, and this is all
ave to do. We do not think it worth while to
cucumbers garden room. We sow them about
itch nills in the fields, and they produce most
iantly. Gourds come to a great size, some of them
ing 50 lbs. You will not be surprised that we
row all these things in the open air, when I in-
you what degree of heat we have for three months
during the summer. The thermometer stood for
months at 99 degrees all day in the shade, and
night. I thought I would be roasted alive, being
d to take my bed out of the house and lie in an
shed, with nothing on but a single sheet; and after
perspired very freely. The weather is cooler now,
hey tell me that winter will soon be on, and con-
for six months, during which all out-door work
e suspended. Wheaten bread is very cheap. You
uy a loaf that will weigh 6 lbs. for 8d. Vegetables
ery high in the market. A good cauliflower will
0d. A cabbage, 4d. Potatoes, 2s. 6d. per bushel,
y, 3s. 6d. per bushel. Beef sells at 3d. per lb,
, 6d. per lb. Mutton, 3½d. per lb. Eggs, 5d. per
. We can grow no rye-grass here. Our hay is all
of timothy-grass. We cut it in the morning, and
ready to be put into the barn in the afternoon.
would advise no person to come here but such as
dy and willing to work; for I can assure you this
place for idlers. Labouring men's wages in this
are 2s. 6d. currency per day; joiners, 5s. per
masons, the same; tailors, 7s. 6d. per day; black-
s, 4s. 6d. per day. Clothes are remarkably high
Thirty shillings is charged for making and
ting a dress coat; six shillings for making a pair
ousers. Shoes much about the same price as in
and, but not so good."

xtract of a letter from a farmer, who left the parish
Fergus in the summer of 1834, and settled in
ownship of Whitby, Upper Canada:—"With the
e of Mr D—— and Mr S——, I bought my
ut farm, which I shall now give you some ac-
t of. I have ninety acres of good land, seventy
hich are cleared; and on thirty acres of this
never was any crop, and but few stumps to clear
perhaps not above thirty on each acre. About
ty acres are altogether free of them, and I think
I have the whole cleared this season. I have a
orchard, containing about 140 trees, one-half of
h are in full bearing, and the other half planted
year. The barn is good, but the dwelling-house
r indifferent. There are three log-houses on the
, two of which let at L.6 each per annum. I have
ht a pair of oxen, which cost me 70 dollars, and
cows, one of which cost L.3, 10s., and the other
10s. currency. The cattle here are very good: I
r expected that I should see such in America.
horses are excellent, and although of the blood
, can endure a great deal of fatigue. I had almost
otten to tell you the price of my farm. It cost me
0 sterling. You may think this a very high price,
ou cannot get woodland here under 8 dollars an
, and it costs 12 dollars to clear and fence it. If a
can buy a cleared farm at L.5 per acre, or L.5, 10s.,

he is much better, if he has the money, than to go into the woods. I have ten acres of summer fallow ready to sow down with wheat; four acres of potato land; four acres where there was Indian corn, which I think I shall have ready to sow down in the course of ten days. I will sow the rest with spring crop, say oats and peas. I fear nothing in this country save the heat in summer; but I have been told, if I stand out this summer, I need not be afraid, as the oldest man in the place does not recollect such a warm season. We are at the same distance from church as we were at Cairnhill, and have two schools within two hundred yards of the door. A blacksmith and wright, a saw-mill and brick-work, are all about the same distance. A person here can have every thing as in the old country, if he has money. Wheat is very cheap. The best does not bring more than 3s. 6d. per bushel; but it is expected to rise very soon. The crop of it was excellent this year, as was also the Indian corn. If any of my old neighbours think of coming here, they need not fear of getting a farm, as there are always plenty to sell."

Extract of a letter from a millwright who left Turriff in the spring of 1834, to a gentleman there:—"The steam-boat fare from Quebec to Montreal was 6s. currency. I sailed from thence to Bytown in a barge—fare 7s. 6d. currency; and 2s. currency for each cwt. of luggage. From Bytown I went by a steamer to Kingston, which cost me 5s., and for each cwt. of luggage 9d.; from Kingston to Toronto, by a similar conveyance, 7s. 6d., without any additional charge for luggage; and then from Toronto to Hamilton, which cost 5s. more. I found employment at none of these places; but did so at the town of Oakville, where a steam-boat was building. Wages, 37s. 6d. per week, for nine weeks. Boarding during this period, 10s. per week. I have now steady employment here, and get 26 dollars per month, with bed, board, and washing. Washing is very high—3s. per dozen of articles of apparel, supposing they were all handkerchiefs. Scotsmen are here more respected and feared than emigrants from other countries. When I commenced first, I had only one sovereign; but I have now L.16, and have besides bought a good many tools. I do not repent of coming here; but I should like to see my native place again, although I never would stop in it altogether. I would not advise any one to come to this country who is not possessed of firmness and persevering habits, as to a stranger every thing appears awkward and forbidding at first; but, if he is possessed of these qualities, he will eventually be sure of success."

CONCLUSION.

Very little remains now to be said regarding these colonies. In our opinion, the question of emigration is one of a very simple nature, and may easily be solved by every thinking person. We have proved beyond the possibility of doubt, that British America is a country placed in infinitely better circumstances at the present moment, than any part of Great Britain and Ireland. We have shown that, in most places, the climate is delightful, and the lands fertile. It is not denied that in many portions of the colonies agues and other local diseases prevail; but it admits of demonstration, that on the whole, they are as healthy as these islands. If the inhabitants of the low uncleared lands in North America be liable to agues and fevers, those of this country are, on the other hand, continually liable to colds and consumptions to a degree fully as dangerous; indeed, the *colds* of the island of Great Britain seem to rank as the most destructive of the diseases which affect mankind. Besides, every year, the continent of America, as it becomes cleared, is becoming more salubrious, and it certainly possesses extensive tracts of land already fully as healthy and pleasant as any part of England. If it be established that British America is that fertile and promising territory which it is represented to be, the whole of the question of emigration resolves itself *into this: are men who* are in difficulties in this country *willing to undergo the trouble* of removing thither, and of exerting themselves for a few years af arrive! As for the notion which obtains as to t of parting with early friends, and the place of ou that we take to be entirely fallacious. It is t of every man to go where his mental and physi perties can be most advantageously exercised. fundamental law of human nature, that mankin disperse themselves over the whole earth, to s the best means of subsistence and the most ag spot for their residence. Had intending emig proceed to a land of barbarians, where neither nor divine laws were understood or acted up where they had to settle on sterile deserts or wildernesses, we might excuse their hesitation to from their native country; but the case is quit rent. To emigrate to Canada, or any other colony, is simply to remove, as it were, to anoth of Great Britain. Distance is nothing; for moval of a family from the north of Scotland south of England would be attended with nea same trouble and expense; and, in each case, the would find itself surrounded with neighbours strange. But to emigrate to Upper Canada w means of purchasing a tract of land, holds out better prospect than to remove from one part o Britain to another. In this country, it now r a very great mental and physical effort to o comfortable subsistence. Nearly the whole of th and manufactures in the United Kingdom are into the hands of capitalists. The rich are be very rich, and the poor are sinking deeper and into poverty and wretchedness. The small farm tradesmen of England, Scotland, and Ireland, s placed in that peculiar condition, when emigr a country less occupied and overdone than the is almost imperative; for, looking around on al they see little chance of rising into better circum or of rearing their families in that comforta reputable manner which their feelings dicta such, therefore, British America offers a fair f removal and settlement. In these countries, la be had in full possession, at an expense of from to twenty times less than what is paid here by annual rent; and it is seen that in a space of fro to five years, the whole cost may be realised amount of the produce. In these colonies, mo there are no taxes; at least they are so very tr a penny an acre, we believe, for cultivated lan they are not worthy of being classed as taxes. are also no poor-rates, and no tithes, both of wh posts are severely felt in England. The emigr likewise have nothing to annoy him in a politica for in Canada he continues to be a British subj can claim all the prerogatives of such a distinct

In short, it appears to us that, excepting th backs attending the *first difficulties*, there is no s tial obstacle to a very considerable improve circumstances. But we entreat all who have a fidence in our advice, not to imagine that these ties will be trifling. They will be, on the contr very serious nature. Let all remember, that t see a country consisting of extensive dreary for terspersed with settlements on the rudest sca the roads are generally in a very bad conditio the cold of winter far exceeds what is general rienced in Britain; that many of the conveni civilised life can with great difficulty be obtaine above all, that every one *must work hard with hands*. We tell all, most distinctly, that thes will be seen and experienced; and that a gr will in all likelihood be suffered for some years ing, however, by patience and enterprise, got e early difficulties, the settler will unquestionably a competence, along with the blessing of men quillity, and be relieved of all fears respecting t ing of his family in a state of decent independe

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S'S

THE PEOPLE.

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ITED STATES.

n to the states is chiefly directed, is divided
portions, the upper and lower valley, distin-
by particular features, and separated by an
y intersecting line at the place where the Ohio
waters into the Mississippi. This large river
y tributaries of first-rate proportions besides
. The chief is the Missouri, which, indeed, is
stream, for it is not only longer and larger,
s a greater extent of country. Its length is
d at 1570 miles, and upon a particular course
es. In its appearance it is turbid, violent, and
ile the Mississippi, above its junction with the
, is clear, with a gentle current. At St Charles,
iles from its entrance into the Mississippi, the
measures from five to six hundred yards
hough its depth is only a few fathoms.
Mississippi-proper takes its rise in Cedar Lake,
th degree of north latitude. From this to the
St Anthony, a distance of five hundred miles,
o a devious course, first south-east, then south-
d, finally, south-east again; which last it con-
ithout much deviation, till it reaches the Mis-
e waters of which strike it at right angles, and
ie current of the Mississippi entirely upon the
side. The prominent branch of the Upper
ppi is the St Peter's, which rises in the great
in the north-west, and enters the parent stream
elow the Falls of St Anthony. The Kaskaskia
as it, after a course of 200 miles. In the 36th
f north latitude, the Ohio (formed by the junc-
the Alleghany and Monongahela) pours in its
after pursuing a course of 750 miles, and
about 200,000 square miles of country. A
low the 34th degree, the White River enters,
ourse of more than 1000 miles. Thirty miles
iat, the Arkansas, bringing in its tribute from
fines of Mexico, pours in its waters. Its last
ibutary is Red River, a stream taking its rise
lexican dominions, and flowing a course of more
00 miles.
rto the waters in the wide regions of the west
en congregating to one point. The Mississippi
upwards of a mile in width, and several
deep. During its annual floods, it overflows
ks below the mouth of the Ohio, and some-
extends thirty and forty miles into the inte-
ying the prairies, bottoms, swamps, and other
unds, under water for a season. After receiv-
River, this large stream is unable to continue
channel; it parts into separate courses, and
way to the ocean or the Gulf of Mexico, at dif-
nd distant points below New Orleans.
capabilities of the Mississippi for purposes of
re almost beyond calculation, and are hardly
sloped. For thousands of years this magnificent
an river rolled its placid and undisturbed waters
widely spreading forests, rich green prairies,

son who had in view an object of gain in every thing he engaged in. He talked much in praise of the rich interior country, and how rapidly it would be settled and cultivated, if possessed by the Americans."

PRINCE EDWARD ISLAND.

This rich and productive island is situated in the Gulf of St Lawrence, betwixt Cape Breton on the east and New Brunswick on the west, and is separated from Nova Scotia on the south, by a strait of about nine miles in breadth. It measures 140 miles in length, and is 34 at its greatest breadth. The general appearance of this island from the sea is level, but, on landing, the scenery is varied with gentle undulations. It abounds with streams and lakes, and in many places it is indented with bays, no part being more than eight miles from the sea. The soil is in general fertile, yielding good crops of wheat and other grains; and parsnips, turnips, carrots, potatoes, and almost all the common culinary vegetables, succeed well. This island has been recommended to such emigrants as possess a knowledge of agriculture with that of the curing of fish. The climate of Prince Edward Island is in some respects similar to that of the neighbouring countries. The winter is said to be shorter than in Lower Canada, and the atmosphere is noted for being free of fogs. Agricultural operations commence about the beginning of May, and the harvest is generally over by the end of October. The chief disadvantage this colony labours under, and which is equally applicable to the others near it, is the great length of the winter, which obliges the farmer to lay up a very large stock of hay for supporting his live-stock. The sudden manner, also, in which spring comes on, abridges the period for sowing and planting, thus leaving the agriculturist comparatively idle at one season, and obliging him to work severely at another. The inhabitants are chiefly from Great Britain and Ireland, with a few Dutch and Germans. Mr Macgregor characterises them as hospitable, kind, obliging, and as, generally speaking, a moral people. The island is governed by a lieutenant-governor, council, and house of assembly consisting of eighteen members, who are elected by the people. Charlotte Town, the capital, is situated on the north bank of the River Hillsborough, on the east side of the island. The town stands on ground which rises in gentle heights from the banks of the river, and its harbour is considered one of the best in the Gulf of St Lawrence. A small group of islands called the Magdalens, have been recently annexed to Prince Edward Island, chiefly as fishing establishments.

PERSONS WHO OUGHT TO EMIGRATE.

"The persons who may be inclined to emigrate to Upper Canada," says Howison, "are of three different descriptions, namely, the poor peasant or day-labourer; the man of small income and increasing family; the man possessing some capital, and wishing to employ it to advantage. Persons of the first class never would repent if they emigrated to Upper Canada, for they could hardly fail to improve their circumstances and condition. The poorest individual, if he acts prudently and is industrious, and has a common share of good fortune, will be able to acquire an independence in the space of four or five years. He will then have plenty to eat and drink, a warm house to reside in, and no taxes to pay; and this state of things surely forms a delightful contrast with those hardships and privations which are at present the lot of the labouring population of Great Britain.

It is evident that some descriptions of emigrants will succeed better in Upper Canada than others. Those who have been accustomed to a country life and to country labour, are of course more fitted to cultivate land, and endure the hardships at first attendant upon a residence in the woods, than artisans or manufacturers, whose constitutions and habits of life are somewhat unfavourable to the successful pursuit of agriculture. But every individual, who to youth and health joins perseverance and industry, will eventually prosper. Mechanics cannot fail to do well in Upper Canada; for when not employed in clearing lands, they will find it easy to gain a little money by working at their professions; and they likewise have the advantage of being able to improve their dwelling-houses, and repair their farming utensils, at no expense. Weavers, being ignorant of country affairs, and unaccustomed to bodily exertion, make but indifferent settlers at first, and their trade is of no use to them whatever in the woods. Married persons are always more comfortable, and succeed sooner, in Canada, than single men; for a wife and family, so far from being a burden there, always prove sources of wealth. The wife of a new settler has many domestic duties to perform; and children, if at all grown up, are useful in various ways."

Every candid traveller in Canada concurs in these views; and it may be observed, that they are equally applicable to the other districts noticed in this sheet. "Of this, I think," says Fergusson, "there can be no doubt, that either the moderate capitalist, or the frugal, sober, and industrious labourer or artisan, cannot fail of success. *Fortunes* will not be rapidly or even readily acquired; but it must be the settler's own fault if he does not enjoy, in large abundance, every solid comfort and enjoyment of life, and rear around his table even a *forest* of 'olive plants,' without one anxious thought regarding their future destination or provision."

PASSAGE.

There are two ways of proceeding to Canada—by the St Lawrence, Quebec, and Montreal; and by New York and the Erie Canal. The passage by the St Lawrence is tedious and troublesome, and we recommend all who can conveniently do so, to take shipping direct to New York; from that city they will at once go on by a steam-boat on the Hudson River to Albany, and from Albany be conveyed in a track-boat on the Erie Canal to Lake Erie, where they will find steamboats ready to convey them in all directions. For those who prefer the passage by Quebec, the following information is given by an official pamphlet:—"Passages to Quebec may either be engaged inclusive of provisions, or exclusive of provisions, in which case the shipowner finds nothing but water, fuel, and bedplaces, without bedding. Children under fourteen years of age are charged one-half, and under seven years of age one-third, of the full price; and for children under twelve months old no charge is made. Upon these conditions the price of passage from London, or from places on the east coast of Great Britain, has generally been L.6, with provisions, or L.3 without. From Liverpool, Greenock, and the principal ports of Ireland, as the chances of delay are fewer, the charge is somewhat lower [we would here strongly advise emigrants to sail, if possible, from a port on the west coast, as being a great saving of time, trouble, and expense]; this year the charge will probably be from L.2 to L.2, 10s. without provisions, or from L.4 to L.5 including provisions. [Emigrants intending to settle in New Brunswick, Cape Breton, or Prince Edward Island, will generally obtain a passage in the vessels bound for Canada; and ships for Halifax or Pictou in Nova Scotia are constantly sailing from the British ports.] In ships sailing from Scotland or Ireland, it has mostly been the custom for passengers to find their own provisions; but this practice has not been so general in London, and some shipowners, sensible of the dangerous mistakes which may be made in this matter through ignorance, are very averse to receive passengers who will not agree to be victualled by the ship. Those who do resolve to supply their own provisions, should at least be careful not to lay in an insufficient stock; fifty days is the shortest period for which it is safe to provide, and, from London, the passage is sometimes prolonged to seventy-five days." Having wound up his affairs in this country, and otherwise prepared himself and family for proceeding to the land of their adoption, it is recommended that the emigrant

h and rhubarb pills; 6 lbs. of epsom salts, and
f senna—these medicines are very dear here; tin
to fit the stove of the ship, and it is convenient to
e one for hooking on the rim of the grate when the
of the fire is occupied; kettle for making coffee,
Use no crockery, but instead, jugs and bowls of
brush pot, frying-pan, and tin kettle."

he best months for leaving England are certainly
ch and April. The names of the vessels to sail
generally advertised in the newspapers. The con-
ance of passengers to the British possessions in
th America is regulated by an act of Parliament
Geo. IV. cap. 21), of which the following are the
cipal provisions:—Ships are not allowed to carry
engers to these colonies unless they be of the height
ive feet and a half between decks, and they must
carry more than three passengers for every four
of the registered burden; there must be on board
east fifty gallons of pure water, and fifty pounds of
ad, biscuit, oatmeal, or bread-stuff, for each pas-
ger. Masters of vessels who land passengers, unless
their own consent, at a place different from that
inally agreed upon, are subject to a penalty of L.20,
overable by summary process before two justices of
peace in any of the North American colonies. The
rcement of this law rests chiefly with the officers
her Majesty's customs; and persons having com-
nts to make of its infraction, should address them-
es to the nearest customhouse.

f the emigrant prefers taking a passage to New York,
should make particular inquiry respecting the vessel
e to sail in, as the above law does not apply to ships
rying passengers to the United States. We know of
oung man with a small capital, who sailed from a
t in the east coast of Scotland for New York, in a
sel which was afterwards discovered to be not sea-
thy. After beating about for three or four weeks
he Atlantic, the vessel was driven through the Irish
nnel, and had to put into the Cove of Cork to
ergo repairs. The passengers were obliged to work
watches at the pumps, and six weeks were expended
ore the vessel really proceeded on her voyage, be-
s having to purchase a new stock of provisions. To
id a similar disaster, we would advise the intending
grant to inquire into the character of the vessel at
office of the company with whom she is insured, and
making any agreement with the captain, to be par-
lar in having it in writing. He should stipulate for
use of all conveniences in the ship; and also not to
obliged to land for at least twenty-four hours after
ting into port.

LANDING.

Previous to disembarkation, arrange your baggage
small compass, the fewer packages the better, but
e them well secured—old dirty clothing, large boxes,
other useless articles, are not worth the carriage.
ou have any provisions left, such as oatmeal, pota-
s, &c., you can sell them at Quebec at a profit, and
id the expense of transport, and you can purchase
ers' bread, butter, tea, sugar, and other necessaries
re suited for your journey. All sorts of provisions
y be bought cheaper, and generally of a better qua-
, in Montreal and Upper Canada, than at Quebec.
ss yourself in light clean clothing. Females fre-
ntly bring on sickness by being too warmly clothed.
your hair short, and wash daily and thoroughly.
oid drinking ardent spirits of any kind, and, when
ted, do not drink cold water. Eat moderately of
ery food. Avoid night dews. By attending to the
ceding directions, sickness will be prevented, with
er serious inconveniences. When every thing is
dy for disembarkation, and if the ship is lying at
hor in the river, take care in passing from the ship
the boat; avoid all haste, and see that your baggage
n the same conveyance with yourself, or left under
charge of some friend, with your name on it. If
ship hauls to the wharf to disembark, do not be in
urry, but await the proper time of tide, when th

ship's deck will be on a line with the quay or wharf. Passengers are entitled by law to the privilege of remaining on board ship forty-eight hours after arrival; and it is unlawful for the captain to deprive his passengers of any of their usual accommodations for cooking or otherwise; you may therefore avoid the expense of lodgings, and make all your arrangements for prosecuting your journey. If, previous to disembarkation, sickness should overtake you, proceed immediately, or be removed, to the Emigrant Hospital, in St John's Suburbs, where you will be taken care of, and provided with every thing needful until restored to health. Medicine and medical advice can also be had at the Dispensary attached to the Quebec Charitable Emigrant Society. This society will grant relief to all destitute emigrants. In Montreal there is a similar institution for the relief of emigrants. It is particularly recommended to emigrants not to loiter their valuable time at the port of landing, but to proceed to obtain settlement or employment. Many emigrants will find employment in the city of Quebec and its vicinity, as also in and about Montreal. Single men, in particular, are advised to embrace offers of this kind; but emigrants with large families had better proceed without delay to Upper Canada, as hereafter directed, or to situations in Lower Canada, particularly the eastern townships; and if they have sons and daughters grown up, they will find a sure demand for their services. Artificers and mechanics of all denominations, and farming labourers, if sober and industrious, may be sure of doing well. Blacksmiths, particularly those acquainted with steam-engine work, also good millwrights and sawyers by machinery, are much wanted in the Canadas. The current rate of wages lately paid to carpenters, masons, and other artificers, was from 3s. 6d. to 6s. or 7s. per day, according to circumstances; farm-labourers were paid at a lower rate. There is no demand for persons skilled in any of the ornamental professions, or for the preparation of articles such as are usually imported from England. A great number of labourers are usually employed on board ships, and about timber-yards, at Quebec and Montreal, who get from 3s. to 4s. 6d. a-day, and board generally found. The extravagant habits engendered in such occupations render it decidedly preferable for the labouring emigrant to proceed immediately to the country. Emigrants with families, and who are possessed of from £20 to £25, are advised to push immediately into the woods, in the vicinity of old settlements, where they can obtain provisions for their spare labour. The most vexing circumstance connected with money matters, is that the currency of the whole of British America is different from that which prevails in the United kingdom; in other words, a sovereign in England is different from a sterling in Canada. The money of Canada is locally of higher nominal value than what we understand by the term *sterling*, and is called Halifax currency. The difference varies; but it may be stated in general terms, that an English sovereign is reckoned to be worth 24s. or 25s. 6d. currency; or an English shilling is equal to about 1s. 2½d. or 1s. 3d. currency. If you take English money to Canada, you will receive these high prices for it; but if you wish to turn currency into sterling, for the purpose of remitting home, you will get a corresponding loss. All wages are, of course, reckoned in currency; therefore, when it is said you will receive 5s. a day of wages, the actual value of this in sterling will be somewhat less. The distinction between currency and sterling will be learned, of course, the moment you come to purchase or receive payment of wages in the former. We have heard very serious complaints on this point. From all we can learn, it is the interest of every employer to pay his workmen by an order for goods at a store, rather than to give the amount in cash; and it is the usage in the large places at which emigrants call, that such orders are given, it should seem, to get rid of a scarcity, does actually get more *goods than he would buy for* 1s. 6d. *in ready money*. This *an apparently high wage dwindles down to a trifle*,

Perhaps such practices are not resorted to by respectable employers, or may only prevail in parts of the country where a circulating medium is scarce; but we have considered it proper to mention the circumstance, in order to put emigrants on their guard. Always ascertain whether you are to be paid in cash or in goods, and act accordingly.

Having arranged all your business at Quebec, you will proceed without loss of time to Montreal, by steam-boat, on your route to Upper Canada. Two steam-boats ply (or lately plied) to Montreal, 180 miles up the St Lawrence, which is performed in from 24 to 30 hours. Take care not to engage a passage in any vessel from which you and your family will be obliged occasionally to come out and walk; we have heard of disgraceful instances of this kind of cruelty. The fares on board the steam-boats were lately as follow (but all may now be a little altered):—Deck passengers, adults, 7s. 6d. each; children under twelve years of age, half-price; and under seven, one-third. The routes and fares to the principal places were lately as follow:—

Quebec to Montreal, by steam-boats, - -	7s. 6d.
Montreal to Prescot, by Durham boats, -	6s. 3d.
Prescot to Kingston, by steam, - - -	5s. 0d.
Ditto to Coburgh, or Port Hope, - - -	7s. 6d.
Prescot to Toronto, capital of Upper Canada, Hamilton, and Niagara, - - - - -	10s. 0d.

From Niagara you proceed by the Welland Canal to Fort Erie, opposite Buffalo on Lake Erie, where steam-boats, or sailing schooners, will convey those destined to Port Talbot, or other parts of the London district, or vicinity of Lake St Clair. Persons going to settle on the lands of the Canada Company will proceed to York or Burlington Bay, head of Lake Ontario.

At most of the preceding towns and landing-places you will find government agents. If you are bound to Perth, or New Lanark, or the vicinity, disembark at Prescot; or you may go by Bytown on the Ottawa.

If for the thriving settlements in the Newcastle district, disembark at Coburgh or Port Hope, on Lake Ontario. Those going to the townships of Seymour may proceed from Kingston, by the beautiful Bay of Quinte, to the mouth of the Trent River, from whence a road, distance 18 miles, leads you to Seymour. If proceeding to the Home or Western districts, disembark at Toronto, the capital of Upper Canada. Emigrants going any where beyond Toronto, will in general find it their interest to take this their route. If for the London district, proceed by the Niagara frontier to Lake Erie and the Talbot Settlement. If for Bytown, Grenville, Hull, Horton, or other situations on the Ottawa River, proceed from Montreal and Lachine by the usual conveyances. Such are the directions that were a short time since suitable; but as there are continual changes, emigrants may find it necessary, on their arrival, to act more by local information than any thing we can say on the subject.

We think it important to mention, for the benefit of the poorer class of emigrants, that there has existed for some years in Montreal a benevolent society of great use and importance, called the Canada Emigration Association. This body of individuals, actuated by humane motives, and anxious to forward labourers to places where their services are required, affords ready assistance to poor emigrants on their arrival at Montreal. It appears that, from the 15th of June 1840 to the close of the navigation by frost a few months later, the society received 2,000 natives of England, 877 natives of Ireland, 1,773 natives of Scotland, and 210 from Germany; total, 5,067. Of this number, 201 were above sixty years of age, and 547 were infants. The relief consisted in furnishing provisions and a humble kind of lodging in sheds, also medical attendance, and payment of passage of themselves and families to places in the interior. The emigrants were greatly benefited by being sent off without loss of time, as they were thereby not only saved from the danger to their health and morals which would have been incurred by remaining any length of time in a large city, but their time was

s from selecting this province as their home. It
ed that nearly all the lands within the settled
ts of the province have passed into the hands of
e individuals; and that the new emigrant must
arily go far into the depths of the forest, remote
the peopled settlements, where, whatever may be
xcellence of his land, he will be remote from
ds, mills, roads, or the means of procuring labour
plies, during the first years of his residence.
se difficulties have existed to a great and dis-
ssing extent, sometimes so as to induce a settler
ndon his possessions. It is true, also, that a great
rtion of the land, especially in the older surveyed
ships, comprehending the choicest locations in the
neighbourhood of roads and navigable waters, now be-
to private individuals; and it is this very fact
nables the association to be of the most essential
e. These tracts are at present unproductive to
wner, and if retained in their wild state, with the
e their owners' obtaining higher prices, would in-
e such a serious obstacle to the settlement of the
ry, as might well justify the legislature in impos-
tax upon lands kept unimproved from so selfish
narrow a policy. The association are happy in
ng, for many of such proprietors are among its
zealous members, that such lands generally re-
e their profitless fertility, only because the hand
n is wanting to turn them into productive corn-
and animated pastures; and that, if their fellow-
rymen were here to make use of them, they would
ppy in giving to them portions equal to their
t wants, without money and without price; yea,
very other aid which could tend to their future
tage. And this, too, without any affectation of
sity on the part of the members of the associa-
for they are well aware that, by the settlement and
ation of a portion of their lands, the adjoining
will become better worth the purchasing by future
ants, or by the settler himself, when he shall have
e prosperous.
e system of free grants of portions of private pro-
e scattered over the whole province, and therefore
nting endless choice of locality, in respect to pre-
settlement of friends, &c., to such persons as have
ney to pay, or having small means, might, more
cially to themselves and the country, apply them
elerate the improvement of the land, forms the
pal feature in the scheme of the association, by
they hope to be useful to their countrymen. But
nly one: there are cases where not only the poor,
ven the comparatively affluent settler, has had to
nter difficulties which might well dishearten him,
ven drive him to abandon his enterprise. Many
bers of this association have had practical know-
of the evils which they are now intent upon avert-
om others; and are desirous of giving their ex-
nce without its price. The establishment of their
try-Office for the sale of lands not devoted to the
-stated object, and for supplying accurate infor-
n, statistical and otherwise, will be found of great
o such as are beyond the necessity of receiving
ther kind of assistance; while, in locating those
shall be disposed to accept of their land, they will
ally avoid the evil before mentioned, of sending
where they will be isolated and solitary, but under
an arrangement as will ensure to each the com-
of society while he is engaged in the first, and in
ses the most discouraging task he has to encoun-
subduing the forest."

e may learn from these extracts that the Cana-
are now fully alive to the necessity of procuring
dy supply of labourers as well as settlers to clear
rounds, by which alone the country can be ex-
d to develop its great resources.

migrants, on arrival, will find no difficulty in discovering
mes and places of abode of the agents of the Immigration
y: they are settled in most towns of the province, and we
doubt that they will give friendly advice and assistance to
o present themselves.

place called Galena, on the Fever River. Salt is also manufactured extensively at Shawneetown in Gallatin county; and other salt springs have been discovered in different parts of the country. The climate of Illinois does not differ very materially from that of the other states in the same latitude; from its lower situation it is perhaps generally milder. In the southern parts the winter is said seldom to exceed six weeks; in the northern parts, again, it is sometimes very severe, but not of long duration. Settlers on their first arrival are apt to be attacked by bilious fever, but with proper care as to clothing and diet this may be avoided. A disease called the *milk sickness* frequently attacks the cows in this country, and has even proved fatal to man, from drinking the milk of the diseased animals. It is supposed to be caused by the cows eating the leaves of a poisonous grape, which might be easily prevented by rooting out the plant from around a farm.

Mr Shirreff speaks very highly of this country as a field for emigration; being of opinion that there is no country in the world where a farmer can commence operations with so small an outlay of money, and so soon obtain a return. This arises from the cheapness of land, and the facility with which it may be cultivated, there being little or no forest land to clear. Mr Shirreff makes a statement of the expense of purchasing 200 acres of land, fencing forty acres, ploughing and sowing eighty, harvesting, building houses, and maintaining family, which he estimates at 1604 dollars, equal to L.340, 17s. With this expenditure is obtained the dairy produce of four cows, the improvement of eight cattle grazing on the prairie, and 3200 bushels of Indian corn, besides vegetables, and the improvement of pigs and poultry. Next year, the settler might plough eighty acres more; and in eighteen months after settling, would have expended L.484, 4s., and reaped 6400 bushels of Indian corn, and 1600 bushels of wheat, besides abundance of vegetables, dairy produce, beef, pork, and poultry. In this statement, Mr Shirreff has stated the produce at 22½ bushels per acre, which is lower than what he was told land in Illinois generally yields. He supposes, also, that the farmer and family only attend to the cattle; the ploughing, &c., being performed by contract. In the case where the farmer himself works, he estimates the purchasing, fencing, ploughing, sowing, &c., of eighty acres at 609 dollars, or L.130 sterling; and for this the farmer reaps 2400 bushels of Indian corn, 675 bushels of wheat, and receives the dairy produce of one cow, pigs, and poultry, besides abundance of vegetables.

Grazing is extensively carried on in the prairies of Illinois, the cattle being sent to New Orleans in great numbers. "With an unlimited range of pasturage for the rearing of cattle," says Mr Shirreff, "and Indian corn at 15 cents, or 7½d. per bushel, the farmer might comfortably live by stock without cultivating any portion of land."

The capital of Illinois is Vandalia, which is situated on a high bank of the river Kaskaskia, in the midst of a rich and thriving country. There are also several other towns rapidly rising into importance, such as Edwardville, Carlisle, Kaskaskia, &c. The state of Indiana resembles Illinois, but contains a greater portion of waste land. The land is mostly all prairie, and the country is well watered by numerous rivers.

Missouri.—The state of Missouri is separated from Illinois by the river Mississippi, which flows along its east and north-east sides. It contains considerable diversity of soil, being in one part hilly, and in others marshy; but for the most part it is good prairie land. Its means of internal commerce are great, from the Missouri and other rivers flowing through it. Mr Flint says of its soil—"This state possesses lands already fit for the plough, sufficient to produce wheat enough for the whole of the United States. Prairies of hundreds of thousands of acres of first-rate wheat lands—covered with grass, and perfectly free from shrubs and bushes —*invite the plough*; and if the country were cultivated *to a proper extent, it might* become the granary of the world." The climate of this state is changea winters are sometimes very severe, and the s extremely warm. In several parts of this climate is unhealthy, owing to swamps and la in the mountainous tracts the inhabitants en health. The staple agricultural productions a and Indian corn, with the usual fruits of wa tries. Cotton is cultivated in the south-east along with tobacco; and hemp and flax are l important articles of produce. This state l long celebrated for the immense deposits of found amongst the hills. There is one district ing over nearly one hundred miles, which is larly distinguished for its lead mines. The ore imbedded in masses, and appears evidently to posit. Coal is also found in several parts of as also iron ore, manganese, zinc, &c. The ch in Missouri is St Louis, pleasantly situated on vation close to the Mississippi. It is a thrivi rapidly rising to importance, being the port all vessels arrive from New Orleans, &c.

The Count Marbois thus speaks of the stat valley of the Mississippi:—"At the junction Mississippi and Missouri, the lands lying tow north-west are of admirable fertility; and th tricts, though remote from the sea, will one d densely populated as any portion of the wor Mississippi, the Missouri, the Arkansas, the Re and their tributaries, water 200,000 square within the space of country called the valle Mississippi. This internal navigation, prep nature, has already been greatly extended and i by canals, and steam-boats ascend and descend wind and tide with great speed. Wood and dispensable agents in this navigation, abound shores of the rivers, supplying steam-ships means of traversing this magnificent stream."

These states, from the facility of communicat be reached from any of the great ports of th The route by New Orleans is recommended cheapest, from the number of steam-ships wh constantly plying between that port and St the Missouri. The cabin passage from Live New Orleans is L.35, and the passage from leans to St Louis L.5, 6s., including provisi steerage passage is from L.4 to L.5 to New and L.1, 14s. to St Louis, exclusive of provisio

Michigan.—The reader will observe on the tongue of land, situated between the two lakes, and Michigan; this tract, with another whic the west, between Lake Michigan and the Mis has been lately begun to be settled by emigra the old states of America. The two together great recommendations to agricultural emigra capital is Detroit, a town situated on the rive connects Lake Huron with Lake Erie, and co 2500 inhabitants. These lakes, with their riv canals, give the district access to the markets York, New Orleans, and Montreal.

The climate is temperate and healthy: win in generally about the middle of November, a tinues till about the middle of March. At De 1818, the mean heat of January was 24°; and the mean heat of July was 69°, of December 27 country is situated upon limestone rock, rath and possesses what the Americans call good wa vileges—that is, numerous falls of water for m It is better watered than any other in the States, being finely diversified with lakes and rising in most parts from copious springs.

The soil is in general a good fertile loam, up stone: in some places a calcareous earth is tu mixed with the common soil; in others, the mixed with a little sand; both are extremely tive. The country is, in some districts, unde timber, and in others an open prairie, where th has nothing to do but start his plough. Hor here from L.18 to L.22, 10s.; oxen from L.15 a-pair. The produce of the land runs from

ing with what we had previously heard
t fertility and growing importance of the

x of emigrants into Ohio, and the neigh-
es, has continued for these twenty years in
and without intermission. They can now
nal and by railroad; but in the absence of
poorest emigrants still urge forward, over
ilty, to the western land of promise. "It
resting," says Mr Flint, "to see people of
untries, and of different dresses, coming
the mail-coach, on horseback, and on foot.
v, this great migration leads to the conclu-
ppression, and the fear of want, are in ex-
ration somewhere to the eastward." "On
ll," he says in another place, "we came up
ular party of emigrants—a man, with his
children. They were removing from New
ittsburg, a land journey of 340 miles. The
progeny had the youngest tied on his back,
ier pushed before him a wheelbarrow, con-
moveables of the family. Abrupt edges of
r than the wheel, occasionally interrupt the
ieir humble carriage must be lifted over
ittle farther onward, we passed a young
ying a sucking child in her arms, and lead-
ittle one by the hand. We could scarcely
or behind without seeing some emigrants
No pilgrims were ever so diversified or in-
these."

seems to have been surprised at the num-
he saw on the roads, all moving in one
His description reminds one of the multi-
streaming on in pilgrimage towards the
ple of Juggernaut; but the pilgrims of the
are generally going to seek a relief from
y in superstitions or death; here they ap-
e been led on by much more comfortable
s, at least if the next extract may be

ived at a tavern. The bread was not pre-
the people were obliging, and made it ready
short time. The landlord was a farmer. He
Indian corn sells here at 13½d. per bushel,
could procure 20,000 bushels of it within
of his own house. Wheat sells at 3s. 4½d.

cipal districts in the western country are
ana, and Illinois. There are considerable
ed in each of these, the most advantageous
those likely to become important in the
of the country, having been immediately
n for that purpose. Some of these have
longer in existence than fifteen years; few
cept those on the river Ohio, longer than
, from the influx of new settlers, and the
e find in maintaining themselves and their
ch places are already populous and thriving.
y is generally flat, so that the towns do not,
of the western states, owe their origin to
situations for water-power. Manufactures,
&c., if ever established here, must derive
r from steam; for which, indeed, the abun-
nal offers great facilities, while the smooth
he numerous rivers makes the mines avail-
he whole district.

ti, a town situated on the Ohio, on the con-
two states, Indiana and Ohio, is a place of
e. In 1800, it contained only 750 people,
15 only 960; it was then surrounded by a
ry, occupied by the Indians. The country
now cultivated, and the number of inhabi-
e town is about 35,000, composed of people
arts of Europe and the United States, who
attracted by the advantages of the place.
osite side of the Ohio, in the state of Ken-
e is another town, which is divided into two
e Licking; these two parts are laid out on
egular plan as Cincinnati, so that the whole
appears one city. There are many great manufacturing works here—steam-mills, glass and iron works, &c., and the bustle of the place gives the farmers an excellent market for their produce. This advantage is further increased by the trade of the numerous large steam-boats which here take in cargoes of beef, pork, flour, &c., for their voyage down the Ohio and Mississippi to New Orleans. Formerly, they could not easily ascend the river, on account of rapids which occur farther down at Louisville; but these have been now overcome by a canal two miles in length, cut through the rock at that place. Louisville itself is situated in Kentucky, and is a place of considerable trade.

Other large towns in this tract of country are Pittsburg, Wheeling, Steubenville, Marietta, and Chilicothe. They afford a considerable market for agricultural produce; and the free navigation to New Orleans, as well as the facilities now afforded by a canal cut to intersect the country from the Ohio, at Portsmouth to Cleveland, on Lake Erie, secure a constant and steady demand for grain, salted beef, pork at the mall, &c. The Americans look forward to this district, and the vast countries surrounding it, as the future pivot of their national grandeur.

The countries in the valley of the Mississippi include Illinois, Indiana, and Missouri, to which we shall now advert.

Illinois and Indiana.—The tide of emigration has for some time back been setting towards the west countries, and amongst these Illinois is conspicuous for its great extent, and the general fertility of its soil. This state is 382 miles long and 154 broad, with an area of 58,900 square miles. It is bounded on the north by the Wisconsin or north-west territory, on the east by Lake Michigan and Indiana, on the south by the Ohio, and on the west by the Mississippi. The whole country is described as a very gently inclined plain, very level—no height reaching above 600 feet. It is nearly all prairie, with a few groves of timber widely separated from each other, and deeply indented with ravines whose sides slope into low round hills. Illinois is favourably situated with regard to water communication. On one side it has the Mississippi as its boundary, on another side the Ohio and Wabash; to the north it is washed by Lake Michigan. The Illinois, from which the state receives its name, connects Lake Michigan with the Mississippi; Rock and Kaskaskia are also navigable rivers; and besides these there are numerous boatable streams.

The soil of this state resembles that of Ohio, but with less irreclaimable land. On this subject Mr Shirreff says—"The soil of Illinois is variable, and the different habitations of the varieties of the sun-flower, and other tall-growing plants, often distinctly marked changes of soil on the prairie. The prevailing soil between Chicago and Springfield was black sandy loam, and occasionally considerable tracts of clay or heavy loam intervened. In this distance of nearly 200 miles, I did not pass over in all ten miles of bad soil, which was light-coloured sand. The surface, which is forest, oak openings, or prairie, has no relation to quality of soil, all of which abound with soils of every description." These prairies are covered with grass three or four feet high, which is burned annually, either being set on fire wilfully or igniting from natural causes. No danger is apprehended from this burning, the ploughing of the ground around a dwelling being sufficient to prevent the fire from spreading so far, and the grass, being perennial, comes up again in spring.

The productions of Illinois are Indian corn, wheat, potatoes, cotton, hemp, flax, &c. Fruits, such as the grape, apples, peaches, gooseberries, &c., arrive at great perfection, and the silk-worm has been found to succeed well. In the wooded parts, the trees exhibit a luxuriant growth, and are often seen of an enormous size. The mineral productions are of great value, consisting of lead, coal, copper, and lime, and good building stone. The lead-mines, which were opened in 1821, are situated in the north-west corner of the state, at a

ought to avoid as a set of leeches. Americans may deal in those matters, and may perhaps profit by them; but emigrants never can do any thing but involve themselves in difficulties by such schemes. Let them look to *certainties exclusively*; the quality of the land, the healthiness of the site, the neighbourhood of a market already established—these are the only considerations that should weigh with them, and no other. In short, to those who have capital, we would say, without hesitation, choose your abode near some of the principal towns; it is almost indifferent which. The soil of the western countries on the Ohio is the richer, and its produce more varied and luxuriant, but the prices of agricultural produce are lower than in the old states, and labour dearer. This is the sole and essential difference, except, indeed, to those who wish to speculate in buying land, by adding to its improvements, and then selling it at a higher rate, when their own labour, and the increasing density of the busy population around them, shall have added to its value. To persons who wish to make money in this way, the vicinity of the rising towns in the western states is certainly a field of high promise, and many have already realised large sums there by proper management in that manner.

Mechanics, Farm-Servants, and Labourers.—Mechanics and labourers, in looking for a situation where they may settle, will be guided by very different views from those of persons possessed of capital. The latter, if they wish to buy land, will prefer to have it in a place where labour is cheap, and farm produce sells dear. The man who lives by his wages, on the other hand, would have labour high, and all manner of provisions cheap. We have advised those possessed of capital to look for settlements as near the large towns as possible, where markets and labour are most easily procured. In regard to the places to be chosen for settling by mechanics, farm-labourers, and others who look for work, we believe, that to those who possess funds sufficient to carry them forward to the western or inland states, there can be no doubt but these afford the preferable field for them, both in respect to wages and cheapness of living. The towns on the Ohio are all gaining rapidly in population and importance, from the richness of the country with which they are surrounded; and many considerations make it probable, that if manufactures be ever largely established any where in America, it will be here. The carriage of foreign manufactured goods is very expensive to a country so remotely inland, and to which they have to be carried through so many canals, rivers, or railroads; and the district itself produces cotton, silk (if cultivated), iron, lead, coals, &c.; so that there is here a *bonus* for manufacturing on the spot which hardly any other country possesses. The consequence begins to be already felt: manufacturing establishments are begun, wages are high, and the price of living is withal exceeding low. To mechanics and labourers, therefore, who have money to defray the expenses of the journey, we cannot but say that the western states present by far the most favourable opportunities. The following extract of a letter is from Cincinnati, on the Ohio:—

"The improvements in Cincinnati are rapidly increasing: the communications opened by means of the canal and the new roads give an impetus to trade. Whatever number of artisans, mechanics, and labourers come out, they will find abundant occupation. The soil is excellent. Engineers are in great demand. Engravers, particularly those who will work in general work, as maps, names, &c.; card-manufacturers; tinmen and braziers; bell-hangers, with a knowledge of casting or directing in that department; baking, brewing, and malting; are good trades. Glovers, stocking-weavers, first-rate plane-makers, turners in steel, iron, brass, and wood, are much wanted. Carpenters, joiners, builders, plasterers, bricklayers, stone-masons, plumbers, all who *are good at their business*, and labourers, can get plenty *of work, at 3s. or 4s. per day.* Gardeners and mechanics average 4s. 6d. to 9s. per day, curriers, 9s. journeyman's wages. Tailors get 20s. for a coat. Hatters do well."

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Persons who wish to buy small lots of land.—emigrants possessed of good capitals, there a men who are acquainted with farming busin with that only, but who have not money to buy it land, and who wish, therefore, to depend on th industry for clearing ground for themselves. such men, after persevering for years, with the lies, in unrequited labour in this country, have America, and become proprietors of well-impro rich farms. We could quote numerous exam this kind: the following is from Mr Flint's int publication:—"J. M., a man from the county burgh, arrived here (near Pittsburg), and had with his family, seven sons, two daughters, an in-law, about ten months before I met him. purchased 480 acres of land; built two log-hou a small stable; cleared and enclosed about two acres, which are nearly all under crop; deade timber of about eighty acres more; and pla orchard. In addition to these improvements, have wrought for a neighbour to the amount o

heat, after one bushel of seed. The cotton ape vine, the sweet potato of Carolina, the egg-plant, have all been successfully cul- e, barley, oats, peas, beans, and potatoes, l kinds of vegetables usually cultivated in titude, produce here in great abundance. pears have been tried, and both produce it: near towns, pears sell at from 2s. to 4s. apples vary from 6d. to 2s. per bushel; ackberries, raspberries, and strawberries, dingly. Indian corn is less luxuriant than of the Ohio, the climate being somewhat is country, on the whole, seems more con- ıropean constitutions and habits than the n settlements.

st and perhaps most beautiful part of the generally thought to be that adjacent to ɔh's River, on which twelve new counties The soil is excellent, and there are nume- water, for mills, &c.

f the government land-offices (which are wherever there is land to sell, in all the ttler may provide himself with a farm, at te of 5s. 7½d. per acre. No quantity smaller s is sold by government. Should he chance in some favoured spot (most of which are red along the great public road for 300 h the country), he will have little difficulty it for 12s. or 15s. an acre. An extensive ntry upon the river and bay of Laganaw side of Lake Huron) is spoken of in terms ıiration for the richness of the soil and e natural scenery, and also as presenting nducements to enterprising and industrious mechanics, from its central and advanta- n for business. The river Laganaw is navi- ıts, twenty miles from the head of the bay, s made to Detroit. Fox River, on the west Michigan, is also specially noticed as highly settlers, in regard to quality of soil, beauty, rantages: a canal is projected to connect ıd the lake with the Mississippi.

sson, to whom we are indebted for the above gives an estimate, from the experience of ıainted with the district, of a purchase in ıd of its returns:—

acres, at 1¼ dollars per acre,	L.45	0	0
, and rail-fence, at 6 dollars,			
50 acres, - - - -	202	10	0
af 2 dollars, - -	67	10	0
use, stables, &c., - -	180	0	0
Returns.	L.495	0	0
150 acres, at 20 bushels per			
dollar per bushel, - -	675	0	0
Profit,	L.180	0	0

nce is here made for maintenance; but it ɔollected, that the wheat crop may be re- hree or four years without manure, and in ing years the charge for purchase disap- ıt the advantages of the latter are obvious. roperly appreciated by the Americans, the emigrants flocking to Michigan being im- population in 1831 was estimated at 32,000. ıe capital of Michigan, is the embryo Con- ɔf the inland seas of North America. It is ı narrow channel, which connects the two Ontario and Erie, with the three upper, ıigan, and Superior. Having access in every countries of more fertile soil than those of sia, and possessed of an equally favourable egins its career with political institutions ropitious to human welfare than were pos- e celebrated city we have mentioned; and one day to be the abode of a more nume- as happier population.

Other Districts.—The three districts we have mentioned are those in which the greatest quantities of land are yet unoccupied, and where it is to be had cheapest; but there are others in which settlers may locate themselves with advantage. Among these is the district of Genessee, in New York state; and, indeed, the whole valley of the River Hudson presents, at intervals, spots on which good land may be purchased, especially by those who would rather sit down on a place partially cultivated, and near markets, than in the heart of the forest.

DIFFERENT CLASSES OF EMIGRANTS.

Men with Capital.—There are three different classes of emigrants, each of whom will be guided by different motives in their choice of a situation. The first is composed of persons who are possessed of capital to some amount, and who have been accustomed to move among the wealthier classes of society in this country. If these individuals intend to devote themselves to agriculture in the country to which they are bound, every circumstance leads us to believe, that unless they are prepared to submit to very great sacrifices of personal comfort, and that for no inconsiderable time, they ought to purchase land partly improved, and as near some of the towns as they can find it. The hardships of a new settlement to persons who have not been accustomed to labour, are hardly such as can be anticipated by description; while the total change of habits—labouring in the woods, living in log-huts, and the want of regular food—often induces disease, of which such persons may feel the effects during the whole of their after lives. Abundance of half-improved properties may be found (as we have mentioned under the title Purchasing of Land), upon which moderate labour, and the exertion of some skill and attention, will secure excellent returns. These may be heard of at any of the large towns, but chiefly at New York, or at Albany, Genessee, Rochester, Geneva, &c., in that state. In Philadelphia, also, in the state of Pennsylvania, most eligible purchases of this kind may be made; and at Pittsburg, a very busy manufacturing town in the same state, on the river Ohio, there are many properties on sale which must rise in value every day with the increasing commercial importance of the place. There are immense beds of coal, iron ore, and limestone, in the vicinity of the town, and the navigation of the Ohio is uninterrupted (though there are some inconsiderable rapids) the whole way to its junction with the Mississippi. Communications by canal and railroad are also now completed, to connect the Ohio at this place with Baltimore and Philadelphia, so that the town of Pittsburg is already of great wealth, and promises rapidly to increase. The land in the neighbourhood is of uncommon fertility, and may be obtained now at prices lower than can be expected in a few years, when a greater number of settlers shall have arrived to occupy it. Properties within twenty miles of the town already sell very high—say fifty dollars or more. Almost the same observations may be made with regard to Louisville, Cincinnati, and Jeffersonville, which are situated in the states of Ohio, Kentucky, and Indiana; these places already possess great trade, and from the abundance of minerals, coal, lime, iron, salt, and lead, which are found in the neighbourhood, they must continue to increase. Farms, therefore, purchased in their vicinity, are certain to rise in value, and, with attentive cultivation, will, in the mean time, pay the cultivator abundantly for his labour and capital. Cincinnati particularly is a place of great activity, and persons who settle in its neighbourhood will easily find society to their liking; it presents, indeed, though so remote from European cities, no difference nor any inferiority in this respect. It is right to mention, however, that the whole of the western country, and, indeed, of all the countries which are in progress of settlement, are overrun with a swarm of speculators in land, and in projected establishments, new cities, manufactories, &c., all of whom the monied emigrant

ought to avoid as a set of leeches. Americans may deal in those matters, and may perhaps profit by them; but emigrants never can do any thing but involve themselves in difficulties by such schemes. Let them look to *certainties exclusively*; the quality of the land, the healthiness of the site, the neighbourhood of a market already established—these are the only considerations that should weigh with them, and no other. In short, to those who have capital, we would say, without hesitation, choose your abode near some of the principal towns; it is almost indifferent which. The soil of the western countries on the Ohio is the richer, and its produce more varied and luxuriant, but the prices of agricultural produce are lower than in the old states, and labour dearer. This is the sole and essential difference, except, indeed, to those who wish to speculate in buying land, by adding to its improvements, and then selling it at a higher rate, when their own labour, and the increasing density of the busy population around them, shall have added to its value. To persons who wish to make money in this way, the vicinity of the rising towns in the western states is certainly a field of high promise, and many have already realised large sums there by proper management in that manner.

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ng quotation affords a graphic description n and life of cultivators in the woods:— in the woods appear to be the most con- dependent people, in their way, I ever met s with only a log-house, unplastered, con- ooms, one above and one below, sometimes w, with a large open fire-place, and a log- nney back and hearth built of stone, picked farm; a boarded floor unplaned, perhaps if too far from a saw-mill; one or two sh windows, and sometimes at first none; es with wooden hooks and hinges. A few mon household use; two spinning-wheels, nd one for wool, with reaves of spun-yarn the inside of the house on wooden pegs, ie logs; an upright churn; a rifle-gun; a an oven out of doors, at a little distance use, built sometimes of clay, sometimes ones, often placed on the stump of a tree e, and with a shed covered with tree bark '; a yoke of oxen, some young steers, two , eight or ten sheep; perhaps a horse, or ; a sleigh waggon, a plough and harrow, ps with wooden teeth; these form all their their land, and on this they often raise or two hundred bushels of wheat, eighty ed of Indian corn, some oats, peas, and wheat and a patch of flax; and fatten hogs and a cow, or a yoke of oxen in a s seven or eight more store pigs, and a Those who brought a little money with e fortunate in having a family of indus- et perhaps a good frame house, or, at all l frame barn, eighty or one hundred acres ed; grow four hundred or six hundred heat; other things in proportion; with yoke of oxen, twelve to thirty fat hogs, orses, &c., half of them or more brood

ing is a ruder picture of industry:—"In unty (Illinois) one of our frontier men lf on government land three or four years our or five sows for breeders, worth as . In 1829, he drove forty-two fat hogs to h he sold for 135 dollars (£30, 7s. 6d.) of corn given to the whole before he drove ; exceed one bushel. They lived on the ew fat on *mast*, that is, beech-nuts, wal- &c.; had they been fed on corn they old higher. Of the proceeds, 100 dollars ere applied to pay for eighty acres of land had settled; the remainder served to pay lebts, and to purchase his salt, iron, and the year. This is not an extraordinary ut one common in that country."

PURCHASING LANDS.

il recently, the practice of the American o sell the public lands on credit, receiving nstalments; but this plan was found so hat it has been abandoned, and the pub- now sold for cash only. While the credit operation, many people were induced to become proprietors of large tracts of land which they had not the means of cultivating, and in the course of a few years the land again fell into the hands of government. The farmer was thus left in a worse state than when he first settled in the country; his capital was expended without having yielded him any suitable return. Most travellers concur in representing the cash system as much superior to the former practice of giving credit, for by it, although any person should be foolish enough to purchase land without having the means of cultivating it, his capital is not lost, as he may always get the price he paid for it again. In the United States there are public land-offices in the chief towns, at which maps of the sold and unsold lands are kept for inspection. Lands are first offered for sale by public auction, and are put up at from a dollar and a quarter to two dollars per acre. If no one offers these prices, they are exhibited on the land-office map, and may be obtained at any subsequent period. On the maps, sections of a square mile, and quarter sections of 160 acres, are laid down; six miles square constitute a township. The sixteenth section of each township is reserved for the support of a school. The deed which confers the right of property in the States is very simple. It is printed on a piece of parchment of the quarto size; the date, the locality of the purchase, and the purchaser's name, being inserted in writing, and the instrument subscribed by the President of the United States, and the agent of the general land-office. It is delivered to the buyer free of all expense, and may be transferred by him to another person without the intervention of stamped paper, law practitioners, or those absurd feudal usages which continue to disgrace the transfer of landed property in Great Britain. Emigrants in going into the woods to make a selection of lands, will do well to take with them an extract from the land-office map applying to the part of the country they intend to visit, and by this they will discover entered from unentered lands.

The public land is, of course, totally uncleared, and untouched by the plough; some of it is more heavily timbered than other portions, and it is of very various quality, that on the banks of rivers and alluvial grounds being exceedingly fertile, and other parts being either rocky or marshy, so as to be either too unhealthy or too unprofitable to be cultivated. The settler, however, has his choice, and, by going out into the woods, he may fix upon a lot to his own mind. An enterprising cultivator, particularly if he be a stout man, with a family of sons, may do very well upon such lands, because the original price is small; and after clearing them to some extent, and erecting one or two log-houses and barns, he can either extend his cultivation (which is easy after crops are got for the first three seasons), or he may sell at a considerable advance as population begins to increase around him, and as settlers arrive, who are not inclined to make first beginnings in the woods for themselves.

When lots are advertised for sale, there are persons who make it their business to go out to survey the whole tract before any one else has examined it; and by remaining in the woods for months, sleeping often in the open fields, and undergoing great hardships, they get acquainted with all the natural advantages of the land, the spots where there are water-power, minerals (such as salt springs, &c.), healthy, open, or fertile grounds, and select such of these as they choose, in order to sell them again at a profit. This practice raises the price of the best lands, and it is one which can only be followed by natives well acquainted with the face of the country; but it cannot be said to have much effect in retarding settlements, as the persons who follow it seldom have very large capitals, and are soon willing to dispose of their purchase at a reasonable advance to those who intend really to avail themselves of the natural advantages which the former have been at the trouble to search out.

In 1838, 12,251,966 acres of land were offered for sale, of which quantity 1,388,733 acres were sold; the

price paid being 1,749,401 dollars, or about 1¼ dollar, (5s. 7½d.) per acre. At the commencement of 1832, the quantity of land unsold, and to which the Indian title had been extinguished, in the states of Ohio, Indiana, Illinois, Missouri, Mississippi, Alabama, Louisiana, and Michigan, and in the territories of Arkansas and Florida, was estimated at 227,293,884 acres. The quantity in the same states and territories held at that period by the Indians was estimated at 113,577,869 acres. The quantity beyond these states and territories was estimated at 750,000,000 acres; making the whole of the public lands at the commencement of 1832, 1,090,871,750 acres.

These are the public lands, but there are vast quantities of ground in the hands of individuals which have not yet been cleared, or only partially so; and the prices at which this is to be had vary according to the quality of the land, its situation with regard to roads and markets, or the work which has been already done upon it. Large quantities of this description of lands are to be had in the north-western districts of Pennsylvania, at from two to four dollars per acre; many portions of it are fertile, situated on healthy mountain sides, and in a climate more nearly resembling that of Britain than is to be expected in the low though rich valleys of the western states, where the public lands are chiefly situated. In the other old-settled states there is not so much of this kind of unoccupied land; though, certainly, when it comes to be in America as it is here, where every inch of ground is wanted for raising food, an immense quantity of what is now despised, will, by the operations of draining, trenching, and reclaiming, be brought into productive cultivation. In these states, particularly New York, there is, however, always abundance of properties in the market, parts of which have been long farmed, and which have houses and offices erected on them, for extending the cultivation of their remaining acres. These are offered at various prices, according to their advantages; and to gentlemen who have skill and enterprise to introduce better and more careful modes of farming, they offer admirable capabilities. The profit which has been hitherto realised in America, has been by merely breaking up the woods and prairies into corn land in the roughest and most unskilful manner; but a new field of enterprise and wealth remains to those who shall introduce in the settled states better breeds of cattle and more scientific modes of agriculture. In general, the American farmers entirely neglect the use of manures; they very often shovel the refuse of their stable-yard into the nearest river; and one farmer is mentioned, who, rather than remove a dunghill which had gathered in his court, chose to build a new set of barns.* The national habits lead them continually to think of breaking up new land, and they always choose to do this rather than manure the old. They prefer, in short, taking their crop off a large field carelessly and unexpensively cultivated, to getting the same returns from a smaller piece of ground skilfully prepared. This is obviously a want of thrift as well as of science, and it is for this reason that we say that good farmers, with some capital, might take advantage of the half-improved lands which are on sale in the settled states,† and by buying them at the very moderate prices at which they are offered, enrich both themselves and the country, by the introduction of more business-like modes of farming. An attention to dairy produce, an improvement of the breeds of cattle, and the introduction of kinds which would produce fat of better quality, and with less expense or trouble than the kinds now known, would be of essential benefit.

The prices at which cultivated and half-reclaimed lands are offered in the district of Genessee (a fertile one), are from twenty to forty dollars per Mr Fergusson mentions several farms which he sale: one near Geneva was of 250 acres, "consist good loam, and some indifferent clay, well watere without any mill power. The wheat and India were excellent; the hedges thriving and in good with a double rail fence; the mansion-house and were very respectable. The price asked was 25 per acre, or L.1406, 5s. for the whole farm."

Mr Fergusson mentions the prices at which other farms were offered; we subjoin an abstract notices:—

"1. Captain Davenport's farm, on the east b the Hudson. It contains 350 acres, 100 of whi in wood: the soil is partly clay, partly sandy loa a large portion is a rich holm on the river side, finest quality. The price demanded is L.7, 10 acre, and it was sold at somewhat more than th soon after. The return might reasonably be ex to reach L.112, 10s. *clear of expenses*, from the fa and L.70 from the profit on a sheep stock on the portion of the farm; in whole L.182, 10s. The given was L.2000, and L.1000 more was requi building, fences, and drains—in all, L.3000; for there is a return of L.180. An industrious Scots f in Mr Fergusson's opinion, would not fail to L.200, clear of all the expenses of subsistence, &

2. Next to this farm was that of Mr Knickert containing 275 acres. There is a fine holm c farm, and the upland seemed fully better than It was let in shares last year, and the owner re L.63. The price asked was L.4 per acre, or L and L.200 more would be requisite for houses, &c. There was no more timber than seemed re for the use of the estate.

3. Mr Cherney's farm, 106 acres, with wood su for the use of the property—about 40 acres o fine holm, capable of yielding, I was assured, fo fifty bushels of oats, or other grain in proportion farm could be had for L.530, and would certain turn L.45 or L.50 clear.

4. Mr Vely's farm, 113 acres; 40 acres of superior holm; the upland good; with a strea ning through it. The houses appeared to be new. farm could be had for L.400, and the return co be less than from L.35 to L.40, clear of all char

5. A farm of 300 acres, occupied by Colonel at a rent of 300 dollars (L.67, 10s.) The soil i loam; nine parts of it are clay: a new dwelling- and good barn, with a valuable wood lot. It mi bought for L.1500.

The whole of these properties were evidently s tible of great improvement, though in foul and ba dition. The local situation is good, the Champlain passing within half a mile, though separated river. The roads are tolerable."

The account given of these properties by an i gent observer and agriculturist, will serve to c an idea of the prices of land, and the returns capital and industry employed in American agricu In all cases we believe it to have been well p that no person should buy more land, however ch offered, than he can immediately cultivate with a tage. The capital expended in buying super ground is completely locked up from use; and th cumstance, in a country where every disposable can be employed with certain profit, is a downrig pitiable loss. There are some persons, indeed, w has been already mentioned, speculate in land, l large quantities in order to sell it again, as it be more valuable by the increase of population; bu adventurers require to have well studied the n advantages of the district, and it is not a specu for emigrants.

To conclude, then, on this subject: Land in ne tricts, chiefly in the western states, may be had dollar and a quarter per acre; in places partially s unreclaimed land fetches from two to four dolla

* [illegible] Mr C[illegible], while residing on Long [illegible] this remark. His mode of cultivat[illegible] turnips, and other green crops; his [illegible] his sheltering of poultry [illegible] were much esteemed in America.

very favourable situations, perhaps a little more. Ground partially opened, and cleared of trees, is offered at all manner of prices, according to the labour bestowed on it, from four dollars to forty.

RENTING LAND.

There is little of what is called renting land in any part of the States; but where there is, the produce is generally divided into certain proportions between the owner and tenant. Sometimes each receives an equal share; sometimes the owner gets a third, according to the improvements on the land, and its quality; sometimes tenants take land "*on shares*," with the landlord, on condition that he furnishes them with seed-corn and fire-wood; and then he receives one-half of the crop. In the western country of Illinois, &c., it is not uncommon for the owner to give a man "team, tools, and board, besides one-third of the crop," for labouring a farm. Mr Pickering mentions that, in the neighbourhood of Baltimore, he was asked a rent of 18s. per acre for a lot of fifty acres, only half cleared; for another lot of very rich land, the rent asked was twelve dollars, or L.2, 14s. per acre.*

These lands had the recommendation of being situated near the markets of Baltimore; and it must be recollected also, in explanation of the high sums demanded, that the rent of land in America by no means bears the same proportion to its price as it does in England. With us, it brings twenty-five years' purchase of the rent. In America, it is freely sold at sixteen and seventeen years' purchase. This must be owing to the many profitable ways in which ready money can be employed in that country.

CHOICE OF LAND FOR SETTLING, WITH RESPECT TO HEALTH AND NEIGHBOURHOOD.

It is of the greatest consequence that the land which is selected be in a healthy situation, in whatever district it be chosen; and for ascertaining this, the emigrant must examine the spot himself. Let him trust the report of no other person; land dealers and others naturally commend tracts of ground which they have an interest to sell. The people of the neighbourhood are also to be distrusted, because they are all anxious to have settlers near them, from the additional value an increasing population gives to their property. There can, however, be little difficulty in making the choice. In the first place, the neighbourhood of all marshes is to be avoided, as well as of rivers, which, from their sluggish course and low banks, appear to overflow and stagnate in time of floods. Such situations are almost always liable to agues and fevers. The same may be said of low moist prairies (meadows), whose great fertility should never tempt any settler from this country to establish himself in them. An elevated spot, where the air circulates freely from all points of the compass, is most desirable. If circumstances should induce the settler to fix himself near any of the great rivers, it is asserted that a residence chosen as near as convenient to the margin of the stream will be more healthy than those situated a few hundred yards' distance, in what is called the "interior of the bottom." Along the Mississippi and Missouri, the banks are generally higher than the ground a little distance inward; and from the porous nature of the soil, this interior land absorbs moisture from the river, and remains always damp. So much is this the case with regard to the Missouri, that all the waters which it receives from its tributaries do not increase the stream, which is, therefore, as large 1000 miles from its mouth as it is where it falls into the Mississippi, after having received more than a hundred rivers in its course. This circumstance is attributed chiefly to the water being absorbed by the porous soil, whence it is partially evaporated in the surrounding air. This peculiarity renders the immediate vicinity of the rivers (except where they have a rocky channel) unfavourable to the health of persons lately arrived in the country, and whose constitutions have not been yet accustomed to the climate and atmosphere.

To emigrants from Britain, we would say, that the country of Michigan and the Highlands of Pennsylvania are likely to be least injurious to their constitutions, and that more caution is required in selecting a situation in Ohio, Indiana, and Illinois—the whole western country indeed—than in the former places. That country, from the number of years it has now been settled, however, has been thoroughly explored, and all its healthy and unhealthy situations ascertained; so that a settler will seldom be at a loss, in the neighbouring towns, to find some clue by which to guide himself.

In whatever place a settlement be chosen, it is of the utmost consequence that the *house* be on a dry and airy spot, and that it have a spring, or clear running stream of good water, close by, for household purposes: some, to secure this object, pitch on the banks of a pool or small lake as an eligible situation, which is the worst place possible, both because the water is often stagnant and unwholesome, from the dead leaves and vegetables lying in it, and because the effluvia from such water is apt to generate disease in those who are constantly near it. The floor of the house should, if possible, be laid with some hard dry substance; and a little fire should be kept in the evenings, even when the weather hardly seems to require it, because this serves to maintain a wholesome circulation of air, and to dry more quickly the green logs of which settlers' houses are first constructed. With regard to clothing, it is of consequence that those who enter upon this new life should make themselves somewhat comfortable in this respect; and though they must for a time submit to hardships, by no means to imitate the savage affectation of many of their neighbours, who think that, as they are in the woods, they ought to take a pride in living like Indians. These people often neglect all cleanliness and comfort, both in their persons and dwellings, and are vain of telling how much they expose themselves to the weather, both in sun and dew, and how well they have stood it for years. Let none of these vain-glorious boastings have any influence with the new settler: he ought, in every point, to maintain habits as little removed from his former way of life as is consistent with his situation; keep his clothes and house as snug and comfortable as he finds it possible at the present time to make them; and expose himself neither to the weather nor fatigue, except where there is some useful purpose to be gained by it; never at least to do so for the mere sake of bragadocio, or to imitate the ostentatious hardiness of some of his neighbours. He will find the Scots proverb, "hooly and fairly gangs far," as true in the backwoods of America as at home. Steady and cautious perseverance in clearing his lands and securing his harvests, with patience and good humour under such privations as are unavoidable, are chiefly essential to the success of the emigrant.

As a farther advice to settlers entering into the woods or new lands, we would say, that if two or three can go together, it assists them materially: a family with several stout sons has a very great advantage in this respect. A few acquaintances joining together, and taking a piece of land to divide among them, can assist one another in clearing it, or in getting in their harvest; and if any accident happens in one of their families, the good offices of the rest serve greatly to relieve its inconveniences. It may happen, for instance, that some of them gets a hurt, or is laid by for a week with sickness; and if this were to occur during harvest, or in seedtime, every thing would be lost, without the assistance of the rest of the company. If such partnerships cannot be formed before leaving

* The rents asked in America are certainly higher than might be expected from our ideas of the relative proportions of the price of land and its rents in this country. But as Mr Pickering, on whose authority we state the above facts, did not really take the land, and only inquired concerning it to gratify his curiosity, we are disposed to think a real bidder might have heard a lower price. In another place, Mr Pickering says he was asked three guineas per acre of rent—a sum quite incredible *to be paid*.

States who have not access to some stream in their neighbourhood for fishing, if they are fond of that pursuit, either for amusement, or as a means of providing food for their families. Every one has the privilege to avail himself of all the treasures of the waters, without let or hindrance; and they are worth taking advantage of. The shad and the salmon, of excellent kinds, abound in the rivers of the eastern states, and beautiful trout are taken in those of the north. Among the fish of the western waters are noticed the perch, one of which, the buffalo-perch, is a fine dish for the table, weighing from ten to thirty pounds. The pike, the perch, and other of the Illinois, and the rivers connected with it, are represented as excellent: a line called a trot-line, drawn across the mouth of the Illinois, with hooks at regular distances, took five hundred pounds in one night. The whole of the fish of the Mississippi are not, however, of equal quality for eating; the kinds which are chiefly the trout, the small yellow cat-fish, the [illegible] and the perch.

[illegible] privileges of the farmer, it would [illegible] over the game, which is abundant [illegible] rican woods, and which may sometimes [illegible]ment, sometimes an agreeable variety of [illegible] mallard, or common wild-duck, is found in [illegible]-water lake and river of the United States. [illegible]vass-back duck is an American species, altogether unknown in Europe; they are found in the rivers [illegible] and Delaware, but principally frequent the Chesapeake, where they feed on the roots [illegible]rass-like plant abundant in these streams: [illegible]out in shoals, but are exceedingly shy, and [illegible] be shot. The delicacy of their flesh, and the [illegible] they bring in towns, render them an object [illegible] pursuit to numbers. In general, however, [illegible]d to game of all kinds, though plentiful and [illegible], it is no object with the colonist, who does [illegible]e to waste his time in following it. Mr Fer[illegible]on of Woodhill met in Canada with a young Scotsman who had been a poacher in Scotland, but was now settled and thriving well on a farm of one hundred acres in his new country. Mr Fergusson said to him, "You will need neither certificate nor qualification here: what do you principally shoot?" "Indeed, sir," said he, "if you'll believe me, I scarce ever think about it, for there's nae body here seeks to hinder us." A herd of deer only two days before had wandered past him while at the plough, yet Walter felt no inclination to run for his rifle, though it stood loaded in the house.

WAGES OF LABOUR, AND COST OF LIVING.

The price of articles varies in different places, so that no general average can be stated either of wages or of the cost of living: both are different in different circumstances. But we have selected, from the best authorities, such lists, for several of the chief towns and districts, as will enable the reader to judge for himself.

Albany.—For Albany, on the river Hudson, we have, from good authority, the following statement:—

Wages.—Men for general farm work—Summer, L.2, 5s. per month; winter, L.1, 7s. per month. Harvest work, cradling wheat, 4s. 6d. per day. A cradle scythe is said to cut four acres a-day, and requires one man to bind to each cradler. Hay cutting, 2s. 7d. per day. Board found besides to all these. A steady active farm overseer or bailiff has about L.45 money wages, a capital house, a cow, and some other advantages. A man gets 8 guineas (or 21 dollars) for three weeks' work drying hops. Good cooks, 18s. to 27s. per month; chambermaids, 13s. 6d. to 18s. per month; washerwomen, 4s. per day; servant girls, 18s. to 24s. per month.

Provisions.—Wheat, 6s. 9d. per bushel; beef, per quarter, 18s. to 23s.; per lb., 2d. to 4d.; mutton, 1½d. to 2d.; veal, the same; pork, 22s. to 27s. per cwt.; butter, 5d. per lb.; cheese, 2d. to 4d. per lb.; eggs, 4d. to 5d. per dozen. Brandy (French), 4s. 6d. per gallon; gin, 3s. per ditto; whisky, 1s. to 1s. 1d. per ditto; excellent table beer, 4s. 6d. per barrel of 32 gallons. Firewood, 13s. 6d., country price; 22s. to 27s., to per cord of 128 cubic feet, delivered four feet cost 2s. per cord to cut to lengths required fo

"The American farmers," says Mr Fergus comfortably, and at a very moderate expense. and soap are generally manufactured from kit fuse. A good housewife assured me that the meat for her family, fifteen in number, did no *in whole*, 1s. per day (three meals), except w allowed them turkeys and other poultry, w reckoned the expense at 2s. 6d. The flour did not exceed 4s. 6d. per week. They have fr fresh and preserved, in the utmost profusion; cider barrel is always ready broached. A go articles of clothing are spun and woven at ho the geese are subjected to periodical contribu wards the bedding of the household, or the feat sold at a good price."

Baltimore.—Mr Pickering, who went to this look for a situation as overseer of a farm, mem following prices as current there:—

His own lodgings and board, at a respecta carpenter's (including washing and mending), per week.* In the markets, beef, 2d. to 3½d. the best cuts, 4½d.; pork from 2d. to 3½d. per sometimes lower; veal and mutton, by the 1s. 2d. to 2s. 3d.; good lamb, 4d. per lb. 1s. 2d. to 2s. 3d. each; fowls, 6½d. to 9d. each. (drumheads), 1d. to 2d. each; potatoes and 10d. to 14d. per bushel. Wild-ducks, 3½d. to 5 the canvass-back duck, a large bird, and est great delicacy, 13d. to 18d. each; partridges, 4 each; quails, 1d. to 2½d. each; hares and (small), from 6d. to 1s. each; shad (a fine fis herring, but ten times the weight), 13d. to 18d Apples, very fine, 13d. to 2s. 3d. per bushel peas, 1s. to 1s. 8d. a-peck.

Ship-carpenters' wages from 7s. to 9s. per da was higher than the usual rate, on account of demand for hands at the time. A young man apprentice to a shipwright, had 13s. 6d. per week for first year, and 22s. 6d. per week second board himself.

Philadelphia.—In the "Price Current" of P phia we find the following rates given on w articles:—Mess beef, per barrel of 196 lbs., 47s. 2d.; butter, per lb., 4½d. to 5d. (best quali cuit, best, per lb., 2d.; mould candles, per lb dipped candles, 4½d.; cheese, in casks, 3d. to 4d. 5½d. Brown shirting, 3d. to 4½d. per yard. superfine, per barrel of 196 lbs., 20s. 1d.; Indi meal, per 196 lbs., 15s. 1d.; hams, 5d. to 5½d. honey, per gallon, 2s. 1d.; loaf sugar, per lb., 8d.; brown sugar, 3½d. per lb.; brandy, per 7s. 2d.; Virginia tobacco, 1½d. per lb.; Cuba 5½d. per lb.; wine, Madeira, per gallon, 5s. 2d. to Port wine, per gallon, 4s. 6d. to 5s. 9d.

These are the wholesale prices; articles of p are furnished in the markets as follows:—The b from 3½d. to 6¾d. per lb., according to what pa animal is selected; fat mutton, of excellent quali chickens about 2s. 1d. a-pair; turkeys from 3s 7s. a-pair. Butter varies, according to the tim year, from 6½d. to 18¾d. per lb., averaging abo Superfine wheat-flour, 19s. 8d. per barrel of 1 kidney beans, 1s. 1½d. per peck; cherries (goo per lb.; good rye whisky, 1s. to 1s. 2d. per gallo ditto, less.

As to the prices of labour in Philadelphia, surrounding country, we find it stated, that a la man gets from 3s. 2d. to 4s. 6d. per day, in th and at farm-work, in the country, he receiv L.1, 16s. to L.2, 14s. per month, besides boa lodging. An attentive handy servant girl is

* The living was—a roast turkey once or twice a-week beefsteaks, ham, sausages, and a kind of pudding; pi fish, &c. A variety of the above was placed on the table meal, and generally three kinds of vegetables, with cof at breakfast and supper.

nther. In the steam-boat the fare is higher; ances is 145 miles: he took provisions with him hours, as did the rest of the passengers. From he took passage in the canal to Lockport, near rie, distance 300 miles—fare, a little more than ney per mile for himself and one trunk, paying t. for the other, which weighed 75 lbs. Passed ferry on the Niagara river, to Canada—charge, This was in the year 1826.

Fergusson of Woodhill travelled the same route New York to Albany, some years later (1831). arges of freight were then considerably lower: t in the cabin of the North America, a magnisteam-boat, and paid only 3s. fare for the whole iles, with a very moderate charge for meals—2s. 3d. for dinner, including brandy, whisky, and ds, placed on the tables at the discretion of the gers. He returned from Canada by the Erie to Rochester: the fare from Buffalo to Rochester, les, 15s. 9d., three capital meals included—the good, the cabins amply supplied with books and kets, and the tables with good cheer. Travelled ed coach from Geneva to Albany, 170 miles, 1s. 6d. No extra charges given to coachmen or persons.

Fergusson afterwards went from New York to ington, and found the charges as follows:—From York to Philadelphia, by Bordentown (where Bonaparte lived), by steam, with 30 miles of arriage, 18s., including breakfast and dinner: n the William Penn steam-boat from Philadelphia timore, 120 miles (going through the Delaware hesapeake Canal, 14 miles), fare 18s.—breakfast inner, both excellent, were charged 2s. 3d. each. Baltimore to Washington in the stage-coach, 30 fare 12s. 6d.; got a neat light coach, a pair of well-fed horses, and a black driver to go to Mount n (the former residence of General Washington), ance of about 12 miles—fare, 13s. 6d.

the account of travelling expenses, it must be d, that passengers may always carry their own ions when in steam-boats, or canal boats, and by eans reduce the amount very considerably.

ERS OF THE PEOPLE, AND THEIR CONDUCT TOWARDS STRANGERS.

have now presented a fair and impartial view United States of America, as regards their ility for the purposes of intending emigrants. e preceding information has been very carefully from every accessible source, and rendered as ete as possible, nothing remains to be mentioned can concern the interests of emigrants, unless few observations on the manners of the people have an intention of residing amongst.

w persons know or care about those little peces of speech or manner in which the people of county or district differ from those of another; r instance, in what the dialect of the natives of shire differs from those of London, or that of the of the south of England from the same class north of Scotland. These matters are of very importance to the comfort of a stranger going ide among them; but it is of some consequence m to know if the new people with whom he is to pass his life are kind and hospitable to those ome among them, or if they are jealous and inat in their manners, and disposed to repel the adss of strangers. There are many such people look new comers as intruders, and take every means ke them feel that the country they have come to gs to others. Is this the case with regard to ica? may be naturally asked by emigrants who of proceeding thither. On this subject we might l to the many invitations which are daily circulated e Americans and their friends, calling on all who stitute of employment and subsistence in Europe, ne freely to that country, where they are assured dial welcome and abundance. But this following

extracts from the journal of Mr Fergusson may show how our wealthy travellers are received there; and we shall then subjoin a similar specimen of what the poor are to expect.

"I could say much," says Mr Fergusson, "were it proper, of the hospitality of New York, and of the unostentatious kindness with which my letters of introduction were received. The style of living is elegant and comfortable, and the domestic circles which I had the pleasure of joining seemed truly unaffected and happy. The quiet, modest, and amiable tone of female society particularly pleased me."

We give a second extract from the same traveller. "I learned also, from a Scotsman in Mr Thorburn's employment, whose family had suffered heavily from sickness last winter, that flowers and parties by no means engross the sole attention of the ladies of New York. He assured me, that, within his own observation, it was quite wonderful what they continued to do, in visiting, clothing, and attending to the poor. This man left Glasgow in great destitution about a year ago. He is now in comfortable circumstances, and his family provided for; but the first fortnight which honest Saunders Lee spent in New York, a total stranger, without money or engagement, he described with a shudder, as '*perfectly awful.*'"

The following extract is from the letter of a female emigrant, whose husband had fallen sick on his arrival:—"We hired a room, and my husband bought a saw, and went sawing wood, and doing any thing; and we thought we should get through the winter pretty well; but after about three weeks, he was taken ill, and it proved to be a typhus fever. We had no parish to apply to for relief; but you would be astonished at the friends we have found; for people that were quite strangers have called to know *if the sick Englishman lived here;* one kind gentleman sent for a doctor, and another good old Methodist gave me leave to go to the grocers for any thing in his name; and others were equally kind. I never thought I should meet with such friends among strangers. My husband is now mending fast."

Mr Flint says—"To-day a vessel from Dumfries arrived; and a few minutes after she was moored, one of the brothers Messrs Robinson went aboard, making inquiries after the views and circumstances of the poorer classes of emigrants. He soon perceived one of them, pointed out where several others would find work, and gave advice to the rest. This is not a new or rare instance of benevolence on the part of these gentlemen."—"Every day numbers of European emigrants are to be seen in the streets [of Philadelphia]; I have never heard of another feeling than good wishes to them."

It is frequently mentioned, that difference of rank or of wealth is not so much thought of in America as in this country, and that the industrious labouring man stands more nearly on an equality with his employer than with us. The following extracts relate to this subject.

Extract of a letter from a labourer:—"A person may not think of coming here without working, and may despise drunkards; but if a person keeps steady, is respected much more than in England; he is admitted at table with the master."

The following extract is illustrative of American manners in various respects. It is from Mr Stuart:—"When they meet us in the street, they, whether accosted by us or not, touch the brim of their hats, and very civilly enter into a talk with them, and will [illegible] which we decline to avail ourselves of, as we have invitations, and to dine at work-time. There are few more striking points of difference between this country and Britain, than in the [illegible] with which people [illegible] on the public roads. [illegible] a gentleman walking [illegible] proves the easy circumstances of the mass of the people, as well as the [illegible] pay for a conveyance and spend less time, than and spend more."—"We have not hitherto," in another place, "seen any thing like a poor house, or a beggar, or any one who did not seem clothed and well fed."

Such are some of the traits of character of the bitants of North America, who, although speaking English language, and living under institutions English in their character, differ, as may be seen in several respects in their manners from the p this country. They do not lay claim to that ar and polish which distinguishes what is called society" in Great Britain; they are more do and frank in their behaviour, less ceremonious, in every way a more independent people in their t and actions than the generality of English and From all that we can understand of their ch they seem to possess less of the quality which p "cringing" than any people on the surface of th It may be conceived, from the extraordinary of classes of persons from most European co and the wide field offered for adventure and ent that the Americans have little of that staidness position and subdued tone of mind which are teristic of the British nation. Society, in the p settled districts, is therefore still in a loose co and emigrants will require to be more alert in to their interests, and much more on their guard deception, than in this old-established country deeply to be regretted, that, for a number o there has been a class of writers in Great and a few travellers, whose deeply-rooted objec been to vilify the American nation in the gross hold up not only their institutions and usages, that belongs to the country, whether in nature as fit subjects of ridicule and contempt. The m calumnies which have been industriously circul these splenetic writers, need not in the smallest produce hesitation among emigrants in refer settling in the United States. The citizens of th American Union are essentially British in thei and character. Their other peculiarities have a arisen from the fortunate circumstances unde they are placed; and in which peculiarities w equally partake, had we fewer public burdens causes to be careworn, as well as a greater s the profitable exercise of our industry. In co Canada with the States, every intelligent t allows, that the citizens of the Union are i more active than the subjects of Great Britain. the colonial territories, all public works, and the settlements, proceed slowly, the system to be rather inert; while on the States' side boundary, every species of work proceeds w most astonishing rapidity—canals being cut, t formed, and towns built, in an inconceivab space of time. As Upper Canada has nearly t natural advantages as the States, and as the p may be presumed, are as well educated and ready intelligent, it would seem that the true the difference we speedily is in the mode of co public affairs. It may be conceded, that the p are as well managed as they could possibly be must also be allowed, that it is not in the n things that a country, with its seat of gov three thousand miles distant, can be so advant conducted as in a closer country, where the gov is at hand, on the spot, but consists; the peop serve. It is not, however, our object here to d comparison between the political condition of t ne and States. Both have free institutions, a possess those capabilities which can yield co settlers. The honest, the industrious, and the prising, will do well in either, and will comm spect and ascendancy wherever they may fi place of settlement.

[illegible] W. and R. Chambers, [illegible] Edinburgh. Also by W. S. Orr & Co. London

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AUSTRALIA.

th beyond the 145th meridian, and on the south be-
d the 140th, and found "that the country preserved,
ar as he was able to see from some hills, the same
orm appearance of an immense level plain. This
ensive country resembles as little the plains of South
erica, covered with abundant grass, as the African
ara, with its moving sands: it seems to approach
haracter to the wide steppes which surround the
e of Aral, and extend to the Caspian Sea and the
l Mountains. But we are inclined to think that
y are somewhat better adapted to sustain inhabi-
s than the steppes of Asia. These plains of Australia
, in many parts, extremely level; in others, they are
ntly undulating; and here and there, but at great
ances, sometimes of more than a hundred miles, a
dy eminence rises, which hardly deserves to be called
ll: the loftiest of these eminences are not above
foot higher than the plain on which they stand.
ll over this extent of country the soil presents only
varieties: it is either a red sandy loam or a white
rse sand. In some places it is entirely destitute of
etation, in others it nourishes only salsolaceous
nts, without a blade of grass between them. Others,
in, are covered with polygonum, a gloomy and leaf-
bramble; and in a few tracts patches of ground are
overed, which appear to be moist, and in which the
stemma is abundant. Such patches probably form
ksands in the rainy season. Those parts of the
ns which seem to have the best soil produce stunted
-trees and cypresses. Large tracts of country are
ered with shells and the claws of crayfish; and this
, although an alluvial deposit, is superficially sandy.
y bear the appearance not only of being frequently
ndated, but also of the floods having subsided upon
m. On their surface no accumulation of rubbish is
erved, so as to indicate a rush of waters to any one
nt; but numerous minor channels are traced, which
ently distribute the floods equally and generally
r every part of the area which is subject to them.
'My impression,' says Captain Sturt, 'when travelling
country to the west and north-west of the marshes
he Macquarrie, was, that I was traversing a country
comparatively recent formation. The sandy nature
he soil, the great want of vegetable decay, the sal-
aceous character of the plants, the appearance of its
ated hills and flooded tracts, and its trifling elevation
ve the sea, severally contributed to strengthen these
ressions on my mind.'"*
he conjecture of Captain Sturt, that Australia is of
ore recent formation than the rest of the globe, is
no means singular, but how far it is correct it is
e unnecessary to inquire. It is at least remarkable,
nature has, in several instances, put on very diffe-
t forms in Australia from what are customary else-
re. Among the animal tribes, the chief are of the

* Penny Cyclopædia.

pouched kind, and move forward by springing. The kangaroo is the principal animal of this description, and there are different kinds of it; some are from four to five feet in height, when sitting on their hind legs. They will, in some cases, leap twenty feet at a single bound, by which odd species of movement they are able to outstrip a horse at full gallop. This interesting and pacific class of animals is fast diminishing in numbers; they are now seldom seen in the settled parts of the country. Opossums are numerous. There is an animal half-bird half-beast, or possessing the bill and feet of a duck, and the body of a mole or rat (ornithorhyncus paradoxus). Wild savage animals are unknown, the native dog excepted, which has been pretty well hunted in some quarters. Of birds there are some singular varieties, both large and small. There are, in particular, a great variety of parrots, parroquets, and cockatoos, all with exceedingly beautiful plumage—green, red, purple, and white. The doves are equally splendid in their feathery coverings. There are several kinds of native bees, "which are without stings, and produce a great deal of delicious honey."—(*Martin.*) Of snakes there are several varieties, some of them poisonous. Musquitoes prevail in the uncleared districts, as they do in all warm uncultivated regions where there are marshes and trees to harbour them; but we do not see it any where mentioned that they form that horrid nuisance which they are in almost every part of North America. In some places, fleas are described as forming a serious nuisance. The rivers abound with fish, some with cod of a large size; and of aquatic birds the usual kinds are seen, including swans of a dark colour. Shrimps, mussels, and oysters, are plentiful; the oysters, though small, are of a very superior quality, and abound on some parts of the coast to an extent quite unprecedented in any other quarter of the globe. The seal and whale fishery on the coasts of Australia offer boundless scope for profitable adventure to those acquainted with this branch of industry, and who have capital to risk.

The mineral riches of Australia are also of great amount. "Coal and iron, the most valuable of minerals, are met with in inexhaustible abundance, the latter being not infrequently found in the state of native iron in large detached masses on the surface of the ground. Limestone is still more abundant, and in some parts of the territory, as in Argyle county, New South Wales, it passes into marble, of which beautiful specimens have already been cut and polished by a skilful artisan from London, now established in Sydney."—(*Lang.*) The colony also possesses clay fit for pottery. A manufactory of brown and glazed earthenware, of the best quality, has lately been commenced on a large scale at Irrawang, near the confluence of the Rivers William and Hunter, by that enterprising and scientific settler Mr King, the well-known discoverer of the superior quality of Sydney sand for the manufacture of glass.

Vast as are the latent resources of Australia with respect to its fruitage, mining, and fisheries, it is not to these departments of industry that the country at present looks for its advancement. Its grand resource consists in an "illimitable extent of pasture-land, which it presents to the sheep-farmer or the proprietor of cattle in every direction."—(*Lang.*) No country on the face of the earth seems to be so admirably adapted for the feeding of sheep and produce of fine wool. America, as is well known, is not a sheep-feeding or wool-growing country. In Canada and other northern parts, sheep require to be housed and fed by artificial means for several long winter months; while on the fine prairies of the States, the sheep which are left at large throughout the year do not yield wool of a valuable quality. Australia, on the other hand, resembles Spain in its qualities for pasturage in all seasons; and its climate produces equally fine, if not superior wool. At the present moment, Australian wool enjoys the highest reputation in England and America—it takes the lead in the market—and so readily and so profitably is it disposed of, that the cost of transport of sixteen thousand miles goes almost for nothing in the grower's calculation of profits.

Most of those beautiful and soft woollen fabrics go by the names of Indianas, Merinos, and Cl are in so great request by ladies, in the shop haberdashers, are chi manufactured from Australian wool; is obvious, from the taste and dex so articles, whilst suited to our , (barring fiscal the production and sale of this species of wool become one of the first trades connected wit commerce.

The aborigines or natives of New South W now very inconsiderable in numbers. They nual wandering life of savages, roaming th interior in small tribes, each claiming quarters a respective territory. They are jet plexion, and in general tall and thin in s, with large heads, large lips, and wide and are altogether the reverse of beautiful, to our ideas of that quality. They have be dered, although the opinion is not complete out by experience, as amongst the lowest of savages in the scale of intellect. There is less mechanical genius amongst them—few vances to improve the original condition of are to be found amongst the natives of any ot ter of the globe. Their only arms are a rude rather pointed pole, which, however, they th great force and precision; and a short club, themselves a *waddie*. Their huts are of the description, and they wear no sort of covering on their bodies. All attempts to civilise them induce them to abandon their wandering h hitherto been nearly ineffectual; and with th tion of a few in the neighbourhood of Sydney, other of the colonial towns, whom this contin in some degree, forced into a half-domestica they still wander in roving tribes throughout rior. From the latest accounts, it does not ap the white settlers are now suffering much fr miserable beings; indeed, it seems that any po command their good will by the slightest efforts ness and conciliation.

The climate of Australia, confining ourselves to the settled portion of the country, although considerably in different districts, is altogether agreeable and salubrious. According to Mr ham, who was a surgeon in the colony of N Wales, exposure produces no bad effect, from ness of the atmosphere; and it has been recom to consumptive patients. The summer comm December and extends to February, durin period the heat is considerable. Dr Lang st the thermometer seldom rises above 75° in Sy cept when the hot winds blow from the west. writer mentions having walked two miles t with the thermometer at 146° in the sun and 8 shade, yet felt no inconvenience, the air being pure. In the lower districts the air is tempe cool and delightful sea-breeze, which blows ste regularly throughout the day, and is succeeded by an equally steady and grateful breeze from The average temperature at Sydney during 55°, and there is only one instance on record having fallen in the town, which was on the 1 1836. In the higher districts, of course, th greater; the thermometer at Paramatta someti ing so low as 27°, and in the district of Bathu lies for a short time in winter.

A peculiarity in the climate of Australia is valence of hot winds during the summer. Th from the north-west, and resemble a strong c air from a heated furnace, raising the therm 100° in the shade and 125° when exposed to fluence. They seldom occur more than fou times every summer, and last only a few d has been supposed that these winds derive t treme heat from passing over a great extent of heated country, which deprives them of all m Breton, in his Tour in New South Wales, s

unpromising appearance of the shores of New
th Wales is not removed upon landing. For five or
miles inwardly, the land continues barren and rocky,
senting few other signs of vegetation besides some
ly scattered stunted shrubs and dwarf underwood.
this distance inward a marked change begins to take
e; the soil improves, and begins now to be encum-
ed with tall and stately trees, which soon again
ken into a dense but magnificent forest, indicating,
ed, a more luxuriant soil than that passed, but
rely less discouraging to the settler. Advancing
ards, however, from six to nine miles farther, an-
r change takes place. You have cleared the forest,
the promised land lies before you, improving with
ry step you advance; now presenting an endless
iety of hill and dale, covered with the most luxu-
nt vegetation; now extensive plains, resembling the
st parks in England—a resemblance which is made
more striking from their being similarly interspersed
h magnificent trees, just numerous enough to add
uty to the land without encumbering it.
uch is, with few exceptions, the whole of the eastern
st of Australia. The colony is, or was lately, divided
the following counties:—Ayr, Argyle, Bathurst,
gle, Brisbane, Camden, Cook, Cumberland, Cam-
lge, Durham, Georgiana, Gloster, Hunter, King,
erpool, Macquarrie, Murray, Northumberland,
lip, Roxburgh, St Vincent, Wellington, Westmore-
d, and Melbourne. To these additions are constantly
ing place, and we therefore do not pledge ourselves
the accuracy of the list.

lgr.—This county is remarkable for the vast pro-
tion of high, rocky, barren, and mountainous land
ch it presents; it is also, in general, so thickly tim-
ed as to give the greater part of it the appearance
me immense forest. The quantity of land capable of
tivation in this district, is therefore comparatively
all; and though there are some good tracts occa-
ally to be met with, it is not, on the whole, by any
ans a desirable quarter of the colony to settle in.
climate, too, has been found to be highly unfavour-
le to wheat; and the hills are bleak, poor, and brushy,
not well adapted for grazing. Port Macquarrie,
of the penal settlements of the colony, is in this
nty.

Durham.—There is but a small portion of this county
ated, as it is called, that is, possessed by settlers; and
general appearance, so far as it has been explored,
the greater number of the other districts, is exceed-
ly varied, often presenting the most beautiful scenery,
equally often the reverse: on the whole, it does not
m to be by any means rich in suitable localities for
agricultural emigrant. Notwithstanding, however,
unfavourable character when generally spoken
it contains some of the finest lands in New South
les; these are to be found in the neighbourhood of
Hunter and Patterson rivers, on the south and
th-east side of the county, as laid down in the maps.
e fertile valleys and soft green undulating hills of
s part of the country, are spoken of rapturously by
who have seen them; they are, however, of course,
already located, and not an acre worth taking can
e be had, except by purchase from the present pro-
etors. In this district is situated the large and com-
dious harbour of Port Stephen, and the township of
itland, the capital of the district. Maitland is one
the most considerable towns in the colony, and has
w daily steam communication with Sydney. The next
trict, pursuing the line of coast, is

Northumberland—lying between Port Hunter and
oken Bay, a distance of about fifty-five miles, and ex-
ding inland about eighty miles. This county possesses
usual proportions of grazing land, and barren and
tile tracts. The best lands, though there are many
ner beautiful and desirable localities, are to be found
the neighbourhood of Patterson River, which divides
from the county of Durham. Within this county is
nated the town of Newcastle, so called from the abund-
supply of coal which it affords; the whole surround-

ing country, as well as a line of coast extending from sixty to seventy miles on either side of it, presenting evidence of its abounding with that valuable mineral. The coal is of a very good quality, though rather small, and makes a brisk fire. The Australian Agricultural Company have a lease of the mines from government, and they supply coal at the pit for 8s. a-ton to the dealers, who supply Sydney and other places at from 20s. to 30s. per ton, this great increase to the price being caused by the high rate of wages. The company have a powerful engine to work the coal and load vessels.

Cumberland.—Following out the line of coast, as originally proposed, we now come to the county of Cumberland, which has a coast line, stretching southward, of about fifty-six miles, namely, from Broken Bay to Coal Cliffs, about eighteen miles south of Port Hacking, and running inland about forty miles. This county, though one of the smallest, and in point of fertility of soil one of the worst in New South Wales, is nevertheless the most important of the whole, from its containing the principal towns in the colony, and amongst these Sydney, the capital. In this county, also, is situated the celebrated Botany Bay. The towns and ports in this district are Sydney the capital, Paramatta, Windsor, Liverpool, Campbeltown, and Darling Harbour. By a reference to the map, it will be observed that the coast here is opened up by spacious inlets of the sea, all of which form excellent harbours; into the head of one of these harbours flows the Hawkesbury River, whose banks present a stretch of fine alluvial lands, to the extent of a few thousand acres.

Sydney is situated about seven miles inwards from the head of Port Jackson, which is considered to be one of the finest natural harbours in the world. It is built upon two necks of land, with an inlet between called Sydney Cove, possessing a depth of water which enables vessels of the greatest burden to come close to the land. Half a century ago, the ground on which Sydney stands was a barren desolate wild, covered with wood, and tenanted only by savages and the kangaroo. In the year 1800, its population, consisting of free settlers and convicts, amounted to about 4000, and now it is reckoned to be upwards of 30,000. Sydney is in general a handsomely built town, and here are to be found more than all the conveniencies and luxuries of a British town of the same extent—regular and handsome markets, public seminaries, banks, flour-mills, warehouses, hotels, distilleries, breweries, steam-engines, stage-coaches for different parts of the colony, five newspapers—the Sydney Herald, the Sydney Monitor, the Sydney Gazette, the Australian, and the Colonist, besides the government Gazette, equally respectably-looking periodicals with any published in this country. Being the seat of government, here centres the colonial business; and the shipping to and from England and other parts of the world is on an extensive scale.

The wharfs and warehouses in Sydney are of surprising extent, and the fine secure harbour in front, so advantageously adapted for general traffic, as well as the reception of vessels employed in the sperm-whale fishery of the southern ocean, is a grand feature in the scene. From all we can learn of Sydney, it appears that the industry and enterprise of its inhabitants, acting on the great resources around them for inland and external trade, promise to raise this chosen seat of population to a high pitch of prosperity; and we may expect that in a few years Sydney will be by far the most important British city in the colonies. The environs of the town are said to be very charming, and include a botanic garden, laid out with handsome walks and rides.

Next to Sydney in importance, though much inferior to it, is Paramatta, situated at the head of the narrow inlet of the sea in which Port Jackson terminates above Sydney. Between the latter place and the former, a distance of about sixteen miles, there is frequent and regular communication both by land and water, two coaches, one morning and evening, and two passage-boats, daily plying between the two places, the fare of the former 4s. inside and 2s. outside. N exceed the beauty of the scenery which pr on all sides as you proceed to Paramatta by sea generally smooth as glass, or but gently a slight breeze; innumerable little promo vered with wood to the water's edge, stre the sea, and forming a corresponding numb tiful little bays and inlets, in endless suc variety. Paramatta contains upwards of bitants. The greater part of the houses he of brick or white freestone, and being for th unconnected with each other, cover a gre of ground altogether than its population wo warrant. The situation of Paramatta is delightful. It lies in a spacious hollow, co the richest verdure, and surrounded by hills rate height. Here, too, are churches, hote seminaries, &c., and all the other appendag siderable country town, with a military a barracks, jail, government house, and the tory, an establishment for the reception of female convicts. Many of the private ho elegant construction, with parks and garden the place altogether thus forming rather an of cottages than a town: the streets, howe gularly laid out, running north and south west.

Pursuing an inland course for about twenty the traveller next arrives at Windsor, c population of about 2000. From Parama little town a coach runs three times a-week. which, in the description of its buildings, m bles Paramatta, is built upon a hill close by Hawkesbury, which forms the north and western boundary of the county, and whi circuitous route of about 140 miles, disch into Broken Bay. Windsor also contains a government house, with extensive gardens churches, a jail, court-house, military and c racks, taverns, inns, shops, &c. The lands in bourhood of Windsor are exceedingly ferti advantage is more than counterbalanced by i liability to inundation from the Hawkesbu sequence of its vicinity to the Blue Mounta has been known to rise to the almost incred of 93 feet above its ordinary level. Inunda and 30 feet are of frequent occurrence, and quences to settlers within its reach are ofte always ruinous to their settlements. The which is built on an eminence of about 100 the level of the river, has hitherto escaped mendous overflowings; but as its elevation highest known floods is only a few feet, it considered as free from danger. Next to Win portance is Liverpool, at the distance of abo or twenty miles from Sydney, in a south-west Between these two places a stage-coach ru times a-week. Liverpool is situated on th George's River, which discharges itself in Bay. It possesses a church, two or three stores, court-house, jail, and the usual accom of a town in New South Wales—a convict ar barracks. The soil around Liverpool is of different quality; but as the town occupies situation between Sydney and some fertile d the counties south and west of it, it is, notwith a place of considerable bustle and of rising im George's River, on which it is situated, an about half the size of the Hawkesbury, is nav boats of about twenty tons burden as high town. Recurring again to the coast line, w the county of

Camden—extending south from Coal Cliff Haven, a distance of from thirty-five to forty stretching interiorly north about sixty miles, average breadth of about twenty miles. The yet any towns in this county. It possesses, ho average quantity of fertile land, but is greatly d water; the very limited supply which it posses

rom branches of the Cow Pasture and other
is defect operates, as might be expected,
inst the prosperity of the district, since,
t important element, its fertile plains can
mptation for the settler. Nor is there
ort supply for the irrigation of the soil; we
. that water can scarcely be obtained even
mon purposes of life. Mr P. Cunningham
t he "once travelled for twelve miles along
nain roads (in this county) in the height of
t could only obtain one drink of hot muddy
ghout all that distance." Camden, though
able for its extent of cultivable land, pos-
haps, a larger proportion of pasture-land
the colony, and this of acknowledged supe-
. The most flourishing local district in this
e Illawarra, situated at the foot of a moun-
t name, a few miles inland from the sea-
one of the most beautiful and fertile locali-
whole colony. Continuing the coast line,

nt.—This county is of considerable length,
es several good harbours, particularly Shoal
vis Bay, and Bateman Bay. It is well watered
r of streams, one of which, called the Clyde,
parallel to the sea for a considerable dis-
lands generally in this county are described
h open plains, watered by copious never-
ams. There are many parts on the Shoal
er which are admirably adapted for agri-
erations, and the same may be said of those
le.

-This county is about sixty miles in length,
verage breadth of from twenty-five to thirty.
ne-half of it is indented, as it were, between
of Camden on the coast, or eastern side, and
of Westmoreland interiorly. It is one of
istricts in New South Wales, producing wheat
agricultural commodities of the first quality,
greatest abundance. Large tracts, too, of
sture-land are every where to be met with;
its geographical position, its climate is of
elightful kind, highly favourable not only to
g of every description of cattle, but render-
ble of producing, in great perfection, all the
vegetables of Europe.

eland—stretching from north to south about
s, and averaging in breadth about forty. This
mountainous district in the settled portion of
Wales; and although none of these are of
neight (the highest not much exceeding 3000
they are so numerous, extensive, and withal
that but a very small portion of cultivable
. It is not, however, without some fertile
some excellent grazing districts. Amongst
these is an extensive flat called Emu Plains;
neral character of the country is highly un-
to the agriculturist. There being little more
of particular notice in this county, we proceed
ining county of

a—situated behind the Blue Mountains, and
n the north and east by the counties of West-
and Roxburgh, and thence stretching south
nteriorly, but without any definite limits being
d to it in that direction. This county presents
ar and varied surface. It is, however, com-
lightly timbered, and generally easily acces-
, although particularly adapted for grazing, it
nly a small portion for the plough, and that
merely of occasional patches on the banks
nd streams. As a grazing district, however,
nferior to the best in the colony, and, in this
iew, is an exceedingly desirable place for the

gh is separated from the sea by the counties
mberland and Durham, and lies beyond the
ntains. It contains a large proportion of hilly
n country, but possesses some tracts of good
d, and is well adapted for grazing.

Bathurst.—This county at one time formed a portion of Roxburgh. It consists of extensive plains of remarkable beauty and fertility, and contains many thousand acres of the finest pasturage. These are now covered with the flocks and herds of settlers to an immense amount, this territory alone furnishing the greater proportion of the whole quantity of wool exported from the colony. It has also acquired great reputation for its dairy produce, and is considered, with regard to its cheese, as the Cheshire of New South Wales. Settlers here, however, labour under the same disadvantage with all those in the interior districts, namely, the being far distant from any market. This, however, materially affects the agriculturist only, and not the grazier, whose property can transfer itself. The rich territory of Bathurst Plains was discovered only a few years since, and was then considered, as it still is, a discovery of the highest importance to the colony. Nearly the whole of the available lands in the counties next the sea, occupying the space between the barren range of mountains and the coast, having been already located, or in the possession of settlers, there was none left for the thousands that were yearly arriving in the colony. On the discovery of these fertile plains, therefore, the superabundant emigrant population, which had been pent up, as it were, on the narrow strip between the mountains and the sea, left that territory, and, crossing the mountains with their flocks and herds, poured down upon this new land of promise, spreading themselves and their flocks far and wide over its rich pastures.

The climate at Bathurst, from its great height above the level of the sea (about 2000 feet), is considerably colder than in the eastern districts near the coast, and on this account, none of the tropical productions, which thrive so well in the latter, can be raised there to any perfection. In the midst of these fine lands is a thriving town of the same name, namely, Bathurst Town. Here there are several institutions, bespeaking the wealth and intelligence of the surrounding settlers. Amongst these are an academy, literary society, and public library. Proceeding still northwards, we arrive at the county of

Cambridge, which is separated from the sea by the county of Ayr. The land is in general good for grazing, but it is said sometimes to be inundated with water from the mountains. It formerly contained some valuable flat land, which now forms part of the county of

Liverpool.—This county contains a tract of valuable land called Liverpool Plains, lying behind a range of mountains which run east and west. Although of a very inferior description of land to Bathurst Plains, these are, notwithstanding, well adapted for grazing cattle and horses; but from their being subject to inundation in the rainy season, the best portion of them being under water during that period, they are neither adapted for agricultural purposes nor for the rearing of sheep. The Liverpool Plains extend about forty miles in every direction. There are few settlements in this county besides those on the plains just named, although it possesses some very eligible lands; but they are remote, and of limited extent.

COLONIAL GOVERNMENT.—SOCIETY.—TRADE, &c.

The government of New South Wales is conducted by a governor and a legislative and executive council: both of the two last, as well as the governor, are appointed by the ministry at home. The legislative council is composed principally of persons holding official situations, and these chiefly residing in the government towns. The executive council, again, is composed of persons filling the highest government appointments. There are, besides, a class of functionaries called police magistrates, distributed throughout the colony, and who take especial cognisance of offences committed by convicts, whom they have a power to punish by flogging or condemning to work in irons.

Sydney is the chief seat of the colonial government, comprehending the supreme court, and the heads of all the civil and military establishments of the country.

Being a colony of Great Britain, the laws by which New South Wales is governed are the same in their leading features with those of England, differing only in instances where such difference was found necessary to adapt them to the peculiarities of the country. The colonies of South and Western Australia have governors appointed by the government at home. They have also councils much the same as New South Wales.

The external and domestic trade of Australia has scarcely yet emerged from a state of infancy; but it is fast gaining strength; and if no unforeseen circumstances should arise to check its prosperity, Australia will one day become, if it is not so even now, by far the most important of all the British settlements abroad. Its leading export articles are wool, and seal and whale oils; a great part of the latter is of that valuable kind called sperm-oil, produced by a description of whale found in the South Seas only, and which generally brings double the price of the common whale-oil. In the article of oil, which has only very lately become an object of serious consideration to the colonists, the improvement has been remarkably rapid, there being now upwards of 40 vessels, averaging a tonnage of nearly 10,000, belonging to and sailing out of Port Jackson alone, exclusively engaged in the whale fishing. A striking evidence of the increasing prosperity of the colony, is the circumstance of its having, in four years, in some instances nearly, and in others more than doubled, the amount of its property in cattle and sheep, and the extent of its cultivated land.

The revenue of New South Wales had advanced in 1837 to L.226,900, 3s. 10d., independently of the revenue from the sale of land, which was upwards of L.127,000. The principal source of the colonial revenue is the duties exigible on liquors, and for licenses to dealers—a fact in itself distressing, for it argues a state of debasing intemperance. The land-revenue is a most important item; but from all we can learn, it has latterly been devoted to a liquidation of expenses incurred for jails and police, instead of paying for the import of free labourers. There is, therefore, on this point, great room for amendment; and such is the increasing attention paid to the subject by the colonists, that it may be expected to be arranged on a satisfactory footing.

We need not particularise the great and miscellaneous import and export trade of the colony, but confine ourselves to a few leading facts as an evidence of general prosperity. The imports, which amounted to L.280,000 in 1826, had increased to L.1,251,969 in 1839; whilst the exports from the colony, including the produce of the fisheries, had increased from L.106,600 in the former year, to L.948,776 in the latter. In 1824, the exports of wool amounted to 275,560 lbs.; in 1837, they were 4,606,915 lbs. In the Savings' Bank of New South Wales, the deposits increased from L.24,469 in December 1835 to L.127,000 in August 1840. The interest paid for deposited money in the ordinary colonial banks is, we believe, at the rate of from 6 to 8 per cent.; and at these banks bills on London will be discounted on favourable terms to emigrants bringing money in this form. Parties emigrating should exchange their cash for bills at respectable and old-established banks before leaving home, this being in every respect the safest mode of transfer. The currency of all the colonies is reckoned in pounds, shillings, and pence, as in England.

A large and profitable trade cannot fail to be ultimately established in wine, from vines which have been introduced as exotics. Some vines of a fine quality, presented by Louis-Philippe, King of the French, to the late King William IV., have been sent to New South Wales, whose clarets may by and bye rival those of France. Already, from grapes grown in the vineyards of the colony, excellent wine might be produced, if any thing like good management were exercised. From the peaches of New South Wales the finest brandy is distilled: so superior is this article, that, if it were allowed to be imported into Great Britain, it would speedily supersede the use of the brandies of France and other high-priced spirits. Silk (from the abundance of the mulberry) ed fruits, with other valuable articles n and indigo, for the which the climat rable, will doubtless be produced. A rt distance from Sydn orange grove has been formed, from which u 100,000 dozens of oranges have been sent int ket there in a year; and an immense quanti grapes are sent by a steamer from Hunter's Ri day in the season, to the Sydney market. articles of food in general use not produc colony, are tea and sugar; but these are l ported, and sold at perhaps not the third of t in this country. In the advertisements in th newspapers, we see the same kinds of articles a for sale by tradesmen as are seen every whe wealthiest establishments in Britain.

The production of wool has for some time b a primary consideration with the settlers, and of late begun to pay more attention to the qu they did formerly, quantity alone having be time all they aimed at. From the improvem has taken place in the breed of sheep, as well mode of preparing the wool for the market. A wool has now become an object of much inter dealers and woollen manufacturers in Englan it is greatly prized for the peculiar softness of produced from it, and which, if combined wi higher degree of fineness—a result that must low the care and attention that is now bestow —would place it on a level with the best g other countries, and consequently direct an i tible stream of wealth into the colony; and t two important considerations at this moment to produce this effect. The first of these is the of the market, and the fair remunerating pri the settler obtains for his wool; the next, the which the distance of the extensive interior se from towns imposes on their occupants, of their whole attention to the rearing of cattle a in preference to agricultural productions.

The state of society in New South Wales to a considerable extent affected by the trans thither of convicts from the United Kingdom that account is less agreeable than that of col from this moral stain. The plan which has bee followed by government on transmitting conv not be particularly described, as no new assig to take place. Convicts now deported are, w sent to Norfolk Island, which may be called a tiary on a great and improved scale.

The most unhappy circumstance connected state of general society is, that the emancipatec and their descendants, however well behaved, as a degraded or inferior class by the free sett thus two factions have sprung up in the col virulently persecute each other, and cause di what would be otherwise an agreeable con affairs. As the settlement of convicts as lab abandoned as a practice unworthy of an en government, it is to be hoped that the line o tion between the two classes of inhabitants dually disappear. In Sydney, where society and good equally flourishes, there are many f of families of the highest respectability, enj the elegancies of refined life, exchanging its c and cultivating its amusements and pleasures; equipages are to be seen rolling along its st public dancing and assembly rooms blazing w and filled, as our newspapers would say, with and fashion;" music parties and theatricals f the measure of the happiness of a Sydney lif to Sydney, Bathurst has probably the highes sions to a superiority in the general charact society. Besides its literary institutions, it h association called the Bathurst Hunt, compos the sporting gentlemen who reside in the distri wear a uniform, and are, as a body, no way in any similar society in England.

The convict system only extended to New Sout

ood water was found. The failure led to the settle-
t on the Derwent River in Van Diemen's Land,
it is rather singular that the first settlers in the
ard effort were from that island: these settlers,
ing crossed the sea (Bass's Straits) to pasture their
ks on the Australian continent, brought the capa-
s of Port Philip into notice, and led to those inves-
tions which have terminated in making it a flourish-
colony. Major Mitchell describes the interior "as
eat resources, of the most various and fascinating
cription, more extensive than Great Britain, equally
in point of soil, and ready for the plough." The
l is well clothed with grass, and requires no clear-
the trees being few. The prevailing plants are
st oaks, honeysuckles, and what are called wattles,
ch belong to the mimosa tribe. The face of the
ntry is diversified by gentle slopes, plains, and vales,
reat fertility, and well watered by numerous springs.
re are few hills; but these are beautifully wooded,
with little labour might be rendered excellent graz-
lands. From the private information we have re-
ed, it appears that a very large portion of the inte-
consists of the usual flat and extensive plains in
ch Australia abounds. These plains are more or
covered with herbage suitable for sheep pasture,
are here and there refreshed with the shade of trees
water-courses.

The capital of Port Philip district is Melbourne, a
ng town situated at the falls of the River Yarra-
rra, a few miles from the harbour. From its situ-
n, the town can always be supplied with fresh water
n above the falls, while immediately below, ships of
tons can be discharged. Port Philip itself is a large
, about forty miles long and thirty-five broad, with
entrance from Bass's Straits, of three quarters of a
e in breadth. It is of such depth, that a vessel of
tonnage may enter and find shelter behind the
ious creeks with which it abounds. Being situated
osite Launceston in Van Diemen's Land, a ready in-
course may be carried on betwixt the two ports. The
ntry around Melbourne is thickly studded with trees,
efly what the natives call the *yarra*, and from which
river has received its name.

The following is an extract of a published letter
m a gentleman residing at Sydney, referring to this
ng settlement:—"I am quite delighted with this
utiful Melbourne. Enthusiastic as I was regarding
extraordinary advantages of this favoured province,
lmost upon my approaching it had some misgivings
t the reality would, as, alas! is too frequently the
e, involve the bitterness of disappointment. The
lity, however, in this instance, far surpassed my
st sanguine expectations, and every day's experience
nfirms me in my favourable opinion of this Australia
lix. The appearance of Melbourne is positively
nderful; a foreigner unacquainted with the enter-
sing, determined, obstacle-surmounting character of
r countrymen, could never believe that it was the
ation of eighteen months' industry. The wand of
magician could not have effected a change more
ndrous. If all the towns on the road from Sydney
Yass were put together—Liverpool, Campbeltown,
ulburn, and Yass, they would not make so respect-
le a town as Melbourne now is. The commercial
portance of Melbourne is evident from the activity
its inhabitants, and the number of ships and vessels
t visit its port (*i. e.* Port Philip). A powerful
am-ship, to trade between this and the neighbouring
tlements, is pressingly required, and would pay her
ners a very handsome profit. I have just returned
m a delightful boat excursion on the beautiful Yarra-
rra, the scenery on the banks of which is most at-
ctive. * * * You are at liberty to make any use
u please of these remarks; their correctness may be
pended on. We feel perfectly convinced, that the
untry around or connected with Port Philip, is a finer
ct than any of a similar extent in Australia, and better
uated in point of locality. It is destined to become
e of the most flourishing provinces of this continent."

Mr Russell, in his tour in the Australian colonies, says of Port Philip—"This is a portion of the Australian territory which has in less than two years gathered a community of about 3500 souls, who have been attracted to the place by its good harbour and superiority of soil. Being more to the south than either Sydney, Adelaide, or Swan River, its geographical position gives it every advantage both in climate and productions. Private enterprise has already raised it to an important colony, through the shipments of its wool to the mother country, besides the flocks of superior sheep sent to South Australia, &c., and even mutton to Van Diemen's Land, thereby returning to that fertile island their own sheep, after being fattened on the soil of Australia Felix." From tables in Mr Russell's work, it appears that, in 1837, 56,326 acres of land were sold in this district, for which the sum of L.69,099 was obtained, and that chiefly from individuals well acquainted with the capabilities of an Australian soil. The first settlers came from Van Diemen's Land and New South Wales to Port Philip, preferring it to the older settlements; and these being in almost all cases young men, a spirit of enterprise was at once set agoing, which has been since of the greatest benefit to the colony.

Besides Port Philip, Australia Felix also possesses an excellent station for a town, in Portland Bay. This bay is rather exposed to a heavy swell during four months of the year, which renders landing in it dangerous; but during the remaining eight months the winds blow off the land, when it is perfectly safe. The interior, for seventy miles back, according to Mr James and others, exhibits one of the richest and most desirable countries in the world, fit either for grazing or for the plough. Mr James thus speaks of Portland Bay:—"To the north-east of Portland Bay are fine sheep and cattle runs, until you come to the lakes; and here may be seen large flocks of Van Diemen's Land sheep depasturing all the way up to Mount Macedon and down to Geelong. The country about Cape Otway is rocky and mountainous. This cape is opposite Bass's Straits, which are only forty miles broad at this part; and at the back of the highlands of the cape the grass is good, though the fresh water is not so abundant as in the rear of Portland Bay." This district is about 700 miles overland from Sydney, and the road is good and well marked.

SOUTH AUSTRALIA.

South Australia is a large district of country, lying on the southern shore of the Australian continent, between the Swan River settlement or Western Australia on the west, and New South Wales on the east. It is contained within the 26th and 36th degrees of south latitude, and forms a territory of nearly 300,000 square miles, or 192,000,000 acres, being nearly double the dimensions of the British Isles. It is penetrated from the sea by Spencer's Gulf and Gulf St Vincent, at the entrance of which lies Kangaroo Island. The country from the eastern side of Gulf St Vincent is very picturesque; being in general well wooded, with considerable spaces of open country. This renders it admirably adapted for sheep farming, and in many places the land is ready for the plough.

About ten or twelve miles inland runs a range of hills, most of which are good soil to the top, and afford abundance of food for cattle. The highest of these is Mount Lofty, which is 2400 feet above the level of the sea. The country between these hills and the sea is diversified, being in some parts undulating and in others level.

Gulf St Vincent is described as without an island, rock, reef, or sandbank, and almost any part of it is perfectly safe anchorage all the year round. Spencer's Gulf runs nearly 300 miles into the interior, becoming quite narrow and shallow at the top. It abounds with fine fish; but the country around is deficient in fresh water, and but a small portion of the soil is capable of cultivation. The great want of this colony is rivers, by which an intercourse with the interior could be effected. The largest river is the Murray, which is desc Mr James as being, for the last 200 miles of it nearly as broad as the Thames at London Brid the banks of this river are several fine alluv at present covered with reeds, but which are of being made to yield abundant crops of grain. flats are nearly on a level with the river, and irrigated at any season. The Murray delivers it into Lake Alexandrina, which also receives th of the Hindmarsh, and from thence to the sea is broad and deep. The next river is the Tor the banks of which stands the town of Adel capital of the colony. The site of the town chosen as to the healthiness of the situation, but under the disadvantage of being six miles from bour, betwixt which and the town the carriage is very expensive. The harbour is perfectly shipping, but there is a bar at the entrance wh vents very large ships from entering. The g jection to the site of the town is the want of goo which can only be obtained by boring to the about forty feet, or taking it from the Torren degenerates into almost stagnant pools in the dr The town of Adelaide has several good stone a houses, and the churches and public offices scribed as handsome buildings. The River Gl the eastern boundary of the colony, is of cons size during the winter months, but is almost dry mer. Lake Victoria is a sheet of water abou miles long and seven broad, communicating Murray River by a stream called the Rufus. abound with good pasturage, and the country being flat, it might be made an admirable agri station. Lake Bonney is smaller than Lake but the land around it possesses equal advanta regard to soil.

Much has been written upon the soil of Sou tralia. On the one hand, it has been lauded finest spot in the world, and on the other decrie worth the trouble of cultivation. From the be rities we have been able to consult, there appea very little of what can be called really barr The principal part of it is fit for grazing sh cattle, and there are many parts which would abundant return of grain if subjected to the On this subject Mr James, who is known not to favourable to the colony, says, "In short, the re good soil than will be required for many years it is generally composed of a rich loam, averagi nine inches thick, on a substratum of coarse ca rock, and, through the whole extent of the plai the settlement, gives evidence of having been at remote period covered by the sea, every stone up being a part of the rock, and exhibiting a c of little shells. Over the hills the soil and ve are still finer; and the author visited a tract of between the mountains and the mouth of the that seemed to contain nearly 100,000 acres of c rich soil, in many places ready for the plough."

From the want of mountains, the country is v from rains, and even the rivers become compa dry during the summer. These deficiencies ar the grand drawbacks upon this otherwise fine With respect to the condition of the colony up period, we present the following extract from of the governor (Gawler) to his legislative April 3, 1840:—"The establishment of the col cost a large sum; but it is probable that no province has ever attained to the same condi to say the least, a smaller price. However g expenditure may be, the results are great also.

Three years and a half ago, the spot on w are now standing was a desert unknown to Eur Now we are surrounded by a populous, and, to derable extent, handsome city. Our principal are lined with well-filled warehouses and sho crowded by all the attendants of active traffic some and substantial buildings are to be seen o side, and are rapidly increasing. Our port,

mised by the commissioners, and with such sounces there will not be a finer harbour for vessels ing under sixteen feet water. Ships of larger sions may discharge their cargoes from the gulf, is in itself a secure roadstead. The neighbourof the capital is studded with numerous and popu-

H WALES.

lous suburbs and villages; while the more distant country, whether to the north, the east, or the south, is rapidly assuming, in population, that healthy and natural proportion which it ought to bear to the metropolis.

Farming establishments are in active formation on every side; and it is now a matter not merely of hope but of sober expectation, that our magnificent agricultural valleys will soon be filled with produce sufficient for home consumption. Flocks and herds of cattle from New South Wales, following each other in countless succession, already cover a tract of two hundred miles in length; and their enterprising proprietors are even now seriously contemplating a noble attempt at geographical discovery, which bids fair to make this province the great entrepôt of South Australia. Our institutions are assuming a condition of stability. Our public departments have attained to a high degree of system and order. The aborigines have been kept under humane control; and considerable, though I regret to say, as yet unsatisfactory efforts, have been made towards their civilisation. Property and private rights enjoy as much protection as in any country in the world; and peace, union, and good understanding, reign throughout the community.

Land has been surveyed, to an extent capable of containing three times the present amount of population; and the most promising arrangements are in active operation, for completing, in a comparatively short space of time, the survey of those rich and beautiful districts already discovered, which would enable us to increase it from ten to twenty fold."

We add the following from articles in the South Australian Register, July 1840:—"In the last general notice of the progress of South Australia, published in August 1839, the population of the colony was stated at 8500. This amount, we have since ascertained, was almost exactly correct. The arrivals since that period have increased the number to nearly 13,250, of which about 6700 are located in Adelaide and the villages in its immediate environs, and the remainder distributed throughout the agricultural and pastoral districts. On the 30th June 1839, the stock in the province was as follows:—Sheep, 58,500; bullocks, cows, &c., 6250; horses, 520; pigs, 1000; goats, 150. On the 30th June 1840, the colony possessed 136,000 sheep; 14,800 head of cows, &c.; 1250 horses; 3600 pigs; and 350 goats—showing, at the close of one year, an *increase*, after satisfying the large consumption of the population, of 127,000 sheep, 8550 cows, heifers, and bullocks, 730 horses, 2660 pigs, and 170 goats. In the above number of sheep we have included 13,000 which have arrived overland from New South Wales during the present week. From advices just received, we learn that upwards of 40,000 sheep, 3000 head of cattle, and 500 horses, are now on their route overland, and may be expected within the ensuing three months.

The prices at the present moment may be quoted as under:—

Sheep,	£1. 6s. to £2. 2s.
Cows and heifers,	9. 0s. to 18. 0s.
Bullocks and steers,	10. 0s. to 21. 0s.
Horses,	35. 0s. to 130. 0s.
Pigs,	1. 5s. to 7. 7s.
Goats,	2. 0s. to 6. 6s.

One of the most frequent, and, at the same time, most unjust and inconsiderate subjects of reproach, is, that we 'grow nothing'—that we 'produce nothing.' Now, whatever may be the faults or errors of the colonists, we must deny, in the most unequivocal manner, that there is any thing of the *festina lente* in their character or proceedings. The first handful of settlers, in 1837 and 1838, could not fairly be expected to grow an ample supply of grain for themselves and for the thousands of emigrants that were pouring in upon them. During the two first seasons of the settlement of South Australia, it must not be forgotten, they *had no land surveyed and appropriated, whereon they could proceed with their farming operations.* In point of fact, last year was the first in which it was practicable to commence grain growing. Nearly 500 acres were fenced in and cultivated. At the present time, a ing to the most careful estimate we have been make, the number of acres, in wheat alone, 1600; and before the middle of November, we that there will be, in maize and other crops, thre the province, considerably upwards of 2000 Judging from the activity with which fencing ceeding in all directions, we may safely state the of land which will be cultivated in 1841 at 12,00 It is thus most gratifying to prove, that so far f colonists being obnoxious to the charge of 'd thing,' they have been most actively engaged in the unlimited agricultural capabilities of the c good account. We are fully warranted in a that the harvest of 1842 will see South Australia independent of our neighbours for supplies c A few years more, and the probability is we able to supply them."

From a statistical return, June 1840, we c following particulars:—

"*Stock.*—Sheep, 180,000; cattle, 15,000; 1500; pigs, 3600; goats, 400.

Shipping.—Ships arrived in the port, 104; 19,399; ships from Europe, 18; ships in harb tonnage, 3059.

Rural lands—number of acres selected.—Di 43,086; district B, 21,058; district C, 16,000; D, 1040; district E, 7536; district F, 480 number of acres surveyed, 359,975. Special of 4000 acres each, 36.

Houses in Adelaide.—Brick or stone, 816; 1588; churches and meeting-houses, 8.

Wages.—Carpenters, 12s. to 15s.; masons a layers, 12s. to 14s.; labourers, 6s. to 7s. p Men-servants, L.25 to L.60; women-servants, L.25 per annum.

Price of stock.—Sheep, 25s. to 40s.; cows, L.18; oxen, L.12 to L.20; horses, L.30 to L.1 L.2 to L.6; goats, L.3 to L.6.

Imports.—[These we omit, as they are such be expected.]

On comparing this return with the one compil end of 1839, it appears that the increase, during six months of the past year, was as follows:— tion, 2000. Sheep, 93,604; cattle, 7000; hor pigs, 600; goats, 100. Number of acres se district A, 736; district B, 1920; district C, 5 trict D, 1040; district E, 1626; district F, 16 number of acres surveyed during this period, Houses built, brick and stone, 403; wood While sheep have fallen about 20s., and catt L.4 each, wages remain the same."

WESTERN AUSTRALIA.

This colony, which is entirely distinct fr South Wales, includes the settlements at Sw and King George's Sound. Swan River settlem its name, as is obvious, from the river in wh nity it is. This river is situated on the south-w of Australia, a little way north of the most southern point, on the west side of the isla neighbourhood was first proposed as a place ment in the year 1828, when Captain Stirling pointed lieutenant-governor. The latest acc the progress of this little colony are upon t favourable, although they do not certainly hold very great inducements for any one to go thit

The soil appears, and really is, until you h about fifteen or twenty miles inland, extrem and barren. At this distance from the coast, it greatly improves, exhibiting many beautiful tile tracts, and bearing some of the most ma trees in the world. Here, also, is the same p of those gorgeous flowers which form so rema feature of the natural vegetable productions South Wales and Van Diemen's Land. Its ani ductions are entirely similar to those of the tw colonies, and it is equally free from any t

to man. The heat, however, would appear oppressive than in either of the places just Whether this arises from a greater intensity s rays, or from a lighter or more irregular f those cooling breezes which prevail in both Wales and Van Diemen's Land, is not ex- ut the complaints by the settlers here of the the climate are frequent, while there are s particular from either of the former. The wever, is exceedingly salubrious. Not only mplaints of any kind whatever, attributable ntry, appeared amongst the colonists, but enabled to bear exposures with impunity, nost other climates, might be attended with erious consequences.

t land, indeed the only land, yet discovered near the settlement worth cultivating, is on of the Swan River, and on those of an ad- er called the Canning; but even there it nds on either side more than two miles from), and not often so far, and all this land has dy located. There is, however, reason to be- good tracts of country are to be found in the ndeed some have been found: but the young not yet had time to devote to expeditions of or been able to avail itself of those that have . The pressure of emigration, however, and re on the part of those already there, will no soon extend the dependencies of the settle- lead to some valuable acquisitions of country. lready under cultivation has been found to oductive, bearing crops of wheat and other al to the best of any other country, but not ficient abundance to supply the wants of the For grain, and many other articles of agri- oduce, it is still indebted to New South Wales, en's Land, and the Cape of Good Hope; but ss which it has made, and continues to make, leave it at no distant date wholly independent aid.

re already several thriving little towns in the ongst these Freemantle and Perth; the for- ort, being built at the mouth of the Swan l the latter the capital. The site of Perth is d as happily chosen. It is situated on a pictu- t on the north bank of the river, about twelve niles above Freemantle. A government house be built here, and there are many others, lly built of both brick and stone, fast rising s. Colonel Hanson, who has lately published ting account of the Swan River settlement, f this infant capital, says—"The society of is hospitality personified; for though their somewhat limited, yet they share them with t good will." The intending emigrant to that herefore, may look forward to at least a kind from his countrymen who are already there; s no small matter to a man who has just ar- ranger in a foreign land, in which he is in all y to spend the remainder of his life, and is just about to engage in an arduous struggle pport of himself and his family.

KING GEORGE'S SOUND SETTLEMENT.

s little in this settlement that can be consi- uliar to itself, as all its natural properties and istics are the same with those of Swan River. to and is a dependency of the latter, and is n the south side of that point or projection of h places Swan River on the west coast of New

Farmers, labourers, mechanics, and whale , are greatly wanted here, and are offered the encouragement, by authority of Governor to emigrate thither:—A guarantee will be lesired, to such as wish to secure employment aving home, of certain wages proportioned to ities and industry, and regulated by their diffe- es; these wages assured to be about one-half a what is given in this country. They will be also ensured of a supply of provisions at a rate not exceeding a fourth more than the prices of this country. To those who prefer devoting themselves to agricultural pursuits, a grant of land, at the rate of one hundred acres to each family, will be made, free of all charge, with the advantage of fixing the prices of stock, provisions, &c., before starting; thus enabling the emigrant to form a correct idea of the amount of capital which he would require before leaving his native land—a piece of information which is often much too long of coming, sometimes not until it is too late. It is recommended that all who go thither should be married persons, and that they should be accompanied by their wives.

SALE OF LANDS.

With respect to the sale of lands in these colonies, we cannot do better than give the official answer to a letter which we sent to the Colonial Office for information:—

"Colonial Land and Emigration Office,
9, Park Street, Westminster,
1st December 1840.

Gentlemen—I am directed by the Commissioners of Land and Emigration to acknowledge the receipt of your letter of the 12th instant, referred to them by direction of Lord John Russell; and, in compliance with your request, that you may be furnished with the latest government regulations for the sale of crown lands in the colonies, mode of sale, and other particulars, I am desired to transmit to you the under-mentioned papers, which have been printed under the authority of the commissioners. [Here certain papers are mentioned.]

It will be seen by the papers referred to, that, in the Port Philip district of New South Wales, and in Western Australia, the public lands will be sold at one fixed price, which is for the present established at L.1 per acre.

In Lower Canada, the public lands are also henceforward to be sold at a fixed price. In the county of Ottawa, and the county on the south bank of the St Lawrence as far as the Kennaba road, the price is for the present fixed at 6s. per acre, and for the remainder of the province at 4s.

In the following colonies, sales are made at auction, and take place at stated periods, the land being offered at the respective upset prices named in the undermentioned list:—

Sydney district of New South Wales, comprising at present all parts exclusive of the Port Philip district,	12s. 0d. per acre.
Van Diemen's Land,	12s. 0d. ...
Ceylon,	5s. 0d. ...
New Brunswick,	2s. 6d. ...

In Nova Scotia, the upset price is at the discretion of the governor in council; but by a local act, it is in no case to be less than 1s. per acre.

In Upper Canada lands continue to be sold by public auction, at an upset price to be fixed from time to time by the lieutenant-governor in council. This price varies according to the locality, but the average price of land in 1836, 1837, and 1838, was 8s. per acre.

In the Port Philip district, and in Western Australia, it is intended, as you will perceive by the enclosed printed papers, to divide the land into lots of 320 acres, or half a square mile. In Canada the lot has generally been 200 acres; in Ceylon, 100 acres. In Van Diemen's Land, and the Sydney district of New South Wales, the size of the lot is one square mile, except under special circumstances.

The several prices above mentioned will, of course, be subject at any time to revision by the proper authorities. For additional particulars, I am directed to refer you to the parliamentary paper ordered to be printed by the House of Commons, on the motion of Mr O'Brien, on the 18th July last. I have the honour to be, gentlemen, your obedient servant,

S. Walcott, Secretary."

Here follow two of the chief papers referred to:—

"*Notice to Persons desirous of purchasing Land at Sydney or Port Philip.*

1. With a view to promoting settlement in the Australian colonies, the following measures have been adopted, under the sanction of her Majesty's government:—

2. It has been determined that, for all purposes connected with the disposal of land, that portion of the territory of New South Wales which lies to the south of the counties of Murray and St Vincent, and of the Rivers Murrumbidgee and Murray, as far as the eastern boundary of South Australia, shall be separated from the rest of New South Wales, and be distinguished by the title of the Southern or Port Philip district.

3. Within the Port Philip district, land will henceforth be sold at the fixed uniform price of L.1 per acre, in sections of one-half of a square mile, or 320 acres each.

4. Towns already laid out, and in which any land has actually been sold, will be exempt from the operation of the foregoing rule, and town lots in them continue to be sold by auction; and the government will also have the power, should it be deemed expedient, to reserve any sites of towns likely to become the seats of local administration, or any sites eminently adapted for commercial sea-ports. The formation of all other towns and villages, including therefore every inland town, except where the residence of a government may be established, will be left to the enterprise and judgment of individuals.

5. Certain lands, to be properly marked out in maps exhibited at the land-office in the colony, will be set apart for roads and other public purposes, and will be regarded as inalienable public property. But it is not intended, unless in very special and rare cases, to make any reservation of minerals, and all deeds of grant, therefore, will convey to the purchaser every thing above and every thing below the surface.

6. Purchasers in the colony must buy their land at the office for crown lands in the district of Port Philip.

7. Purchasers in England will have to deposit their purchase-money with Mr Barnard, the crown agent for the colony, No. 2, Parliament Street, from whom they will obtain a receipt, on production of which at the office of the Colonial Land and Emigration Commissioners, No. 9, Park Street, Westminster, they will be furnished with an order, stating the number of acres which they have purchased, and directing that this quantity shall be granted to them upon their naming in the colony the spot of unappropriated land which they shall select.

8. The charts and registers to be kept in the land-office at Melbourne are intended to furnish full and authentic information of all appropriations of land, and of all surveyed lands not appropriated, and of all portions of land reserved for public purposes. And each purchaser will be allowed to select his land in the order of his application at that office.

9. Any one who shall pay in this country, or in the colony, the price for eight square miles, or L.5120, will not be confined to districts already surveyed and open for sale, but will have the privilege of demanding a special survey of the land he is desirous to acquire. This land, however, must be taken in one block, of which only the outer boundaries, therefore, will be surveyed. It will also be subject to all regulations which may be established in the colony, respecting the proportion of front to depth, water-frontage, reserves for roads, and other conditions of similar nature.

10. Every purchaser will be entitled to name a number of persons of the labouring class for a free passage to the colony, in proportion to the amount of purchase-money which he has paid in this country: viz., for every L.20, one adult person of fourteen years and upwards, or two children between seven and fourteen, or three children under seven. The whole must be subject to the approval of the commissioners, and fall within their general regulations on this subject, of which a copy will be furnished to any person requiring them.

11. Persons who may wish to avail themselve above advantage, will be required to send into t lists of the names and descriptions of the peo propose for a free passage within six months of of their purchase, after which time no further any nomination for a free passage will be a Purchasers of special surveys, however, will be eighteen months.

12. In the older parts of New South Wale tuting what will henceforward be called the district, land continues to be sold by auction at price of 12s. per acre, in lots of 640 acres, or on mile.

13. Should any person, intending to purch in this portion of New South Wales, think p deposit money in this country, in the mode abo tioned, he will receive from the Land and Em Commissioners an order entitling him to cre corresponding sum in the acquisition of lan public sales in the colony, and he will be all nominate emigrants for conveyance to Sydne the same rules and regulations as above referr the district of Port Philip.—By order of the b

S. Walcott, Sec

Regulations for granting free passages, allu the above paper:—

"1. The emigrants must belong to the clas chanics and handicraftsmen, agricultural labo useful domestic servants. All the adults capable of labour, and emigrate with the inte working for wages after their arrival.

2. Persons, therefore, who are proceedin colony to buy land, or invest a small capital are not eligible for a free passage.

3. The classes most in demand may be desc follows:—shepherds and farm-servants; th employed in building, such as carpenters, join terers, bricklayers and stone-masons, quarryr brickmakers; country blacksmiths, who can sho wheelwrights, and a moderate number of tai shoemakers.

4. The emigrants are required to consist pri of married people and their families.

5. Single women without their parents, are missible if they are emigrating under the im care of some married relatives, or else atta domestic servants to ladies going out as cabin pa in the same ship.

The most useful of this class may be said t mestic servants, as just alluded to, sempstre young women accustomed to farm or dairy wo

6. Single men cannot be allowed, except in a not exceeding that of the single women in t ship. If named by a land purchaser, they can accepted in case the same party has named a number of single women who conform to regul

7. The age of persons accepted as adults is less than fifteen, nor, generally speaking, mo thirty-five. But the latter rule will admit of h laxed in favour of the parents of sons and da of useful ages, going by the same ship.

8. Good character is indispensable, and deci tificates will be required both to this point and competence in the professed trade or calling of posed emigrant.

9. All applications, therefore, must be mad form hereto annexed for the purpose, duly fille attested, as explained in the form itself, and t warded to this office.*

10. For the present, the limited amount does not admit of giving free passages except grants named by parties who have made pure this country of colonial land. No others, theref apply, as it will be impossible to comply with t plications.

* [Applicants, we believe, can procure these blank from shippers of emigrants, who will also show how the filled up.]

chasers must make their application within
x months, after which the right of nomina-
t. Purchasers of special surveys, however,
d eighteen months. The nomination will be
the approval of the commissioners, whose
ust be received before the emigrants are led
ay preparation.
early answer will be given. If approved of,
ants will be registered in this office as ac-
a free passage, and accommodation be found
at the first suitable opportunity. But due
be given, and they should not in the mean-
draw from their employment.
emigrants must pay their own journey to the
barkation.
risions, mattresses and bolsters, and cooking
ill be found for them. But blankets, sheets,
lets, are not supplied, and they must provide
it stock for themselves and their families.
ld also bring their own towels, and their own
l forks, with tin or pewter plates, spoons, and
nugs.
emigrants must bring their own clothing,
t be allowed to proceed unless they provide
s with a sufficient supply for their health
voyage. The lowest quantity that can be
would consist of two complete suits of *exte-*
ng (including two pairs of shoes), and of six
shirts and stockings; but as a general rule,
stated that the more abundant the stock of
e better for health and comfort during the
It should be observed, that the usual length
ge to New South Wales is about four months;
it whatever season of the year it may be made,
ants have to pass through both very hot and
weather, and should therefore be prepared for

a family should furnish itself with two canvass
gs, as the heavy boxes and chests will be put
e hold, and there will only be access to them
ery three or four weeks.
desirable that emigrants should take out with
necessary tools of their trades: bulky agri-
nplements, however, cannot be admitted, on
their inconvenient size and weight; neither
ure be received on board—mattresses espe-
feather beds, are strictly prohibited.
whole quantity of baggage allowed for each
grant is as much as will measure twenty cubic
ot exceed half a ton weight. It should be
s far as possible, into two or three boxes of
than two and a half or three feet long, by
nty inches wide and eighteen inches high.
ould not crowd the ship with boxes only half
l must pack their effects close.
y the luggage really belonging to each family
gers is intended to be taken under the fore-
wance. If any one should attempt to impose
nmissioners, by letting the baggage of other
ot members of his family, go under his name,
rfeit his passage, and not be suffered to pro-

ters and applications should be addressed
) to Stephen Walcott, Esquire, Secretary to
l of Emigration, No. 9, Park Street, West-
-By Order of the Board,

STEPHEN WALCOTT, Secretary."

IGRATION AND MISCELLANEOUS INFORMATION.

he above accounts of the various settlements
lia, it will appear that they are in a condition
, employ, and comfortably sustain, an immense
n. At present the whole country is only in its
nd it is perhaps not too much to say, that fifty
families could be accommodated from Great
nnually, for a century to come. Two or three
s peculiar in the adaptation of Australia to
Some parts are well suited for carrying on
re and gardening; but, from the dry nature of the climate, the grand object of pursuit must be sheep-farming, and it may be recollected that America and England will take any quantity of wool that can be sent, and for which food, clothing, and all desirable articles, will be given in return. Hence, to become a pastoral farmer may be considered the prime intention of the emigrant who possesses a sufficiency of capital, and to employ themselves as shepherds or to work as mechanics is what all labourers without capital will naturally turn to.

The rapid extension of pastoral farming in all the settlements, particularly New South Wales, Port Philip district, and South Australia, and the increasing size of towns, along with the stoppage of convict assignment, have caused a most extraordinary demand for labourers, and wages are very high. In a letter from a gentleman at Melbourne (Port Philip), dated July 23, 1840, to his father in this country, and which has been obligingly shown to us, we find the following passages: —"Melbourne is spreading out daily to a great extent. Labour is the cry. We have had three ships from Mr Marshall of London, during the last three weeks, each vessel bringing at least 200 emigrants; yet the wages are 12s. per day for mechanics, 8s. per day for labourers, and shepherds L.35 per annum, with rations; female house-servants, L.20, and female cooks, L.25 to L.30 per annum, with board and lodging. These are the wages now, and no prospect of a fall. No sooner does an emigrant ship arrive in the bay, than numbers go down and engage servants, and before a week has passed, they are all taken up." It is true, the expense of living is higher at Melbourne than it is in this country, but we should suppose not more than a fourth can be reasonably deducted from the rate of wages on this account; and it is very certain that no man or woman of honest character, who is willing to work, need lack the means of a comfortable mode of life, besides the prospect of still greater advantages.

So great is the demand for labourers, that government, as we have seen, hold out the inducement of a free passage to young persons of both sexes, and a portion of all the money laid out in land is set aside as a fund wherewith to accomplish this desirable object. Persons in humble life, therefore, who are of the age, and belong to any of the professions named, can now get a free passage by applying to the proper authorities; and as there are shippers who negotiate these free passages in every principal sea-port, very little trouble need be encountered on the subject. They will be supported for ten days after landing, but it is not probable they will be ten hours without getting into work.

Others, who do not come under the class for free passages, or who prefer selecting their own mode of transit, can be at no loss whatever to find vessels fitted for their reception. About the months of March and April of each year, emigrant vessels sail in great numbers to Australia. The same expense, we believe, is incurred for a passage to Sydney, Port Philip, or Adelaide. The common price of passage, including provisions, is, for a single man in the steerage, about L.23, and in the cabin, from L.55 to L.60; for a married couple, somewhat less than the double; and for single females the charge is about L.3 less in the steerage, and L.5 in the cabin. Children are rated according to their ages from sixteen, at three-fourths of the above rates down to six, at one-fourth; when under twelve months old, no charge is made. Each passenger is allowed half a ton of luggage. They furnish their own bedding, and, in the case of steerage passengers, their own spoons, knives, forks, &c. When the passage-money, however, is found to be lower than that stated above, it would be well for the intending voyager to see that the difference is not made up by a deficiency in the quantity or quality of his provisions, or that it is not perhaps much more than compensated by some such arrangement, probably, as putting three grown-up persons into one bed, when there are no ordinary ship beds that can with any degree of comfort accommodate more than two.

re follow two of the chief papers referred to:—

'Notice to Persons desirous of purchasing Land at Sydney or Port Philip.

1. With a view to promoting settlement in the ustralian colonies, the following measures have been lopted, under the sanction of her Majesty's govern-ent:—

2. It has been determined that, for all purposes connected with the disposal of land, that portion of the territory of New South Wales which lies to the south of the counties of Murray and St Vincent, and of the Rivers Murrumbidgee and Murray, as far as the eastern boundary of South Australia, shall be separated from the rest of New South Wales, and be distinguished by the title of the Southern or Port Philip district.

3. Within the Port Philip district, land will henceforth be sold at the fixed uniform price of L.1 per acre, in sections of one-half of a square mile, or 320 acres each.

4. Towns already laid out, and in which any land has actually been sold, will be exempt from the operation of the foregoing rule, and town lots in them continue to be sold by auction; and the government will also have the power, should it be deemed expedient, to reserve any sites of towns likely to become the seats of local administration, or any sites eminently adapted for commercial sea-ports. The formation of all other towns and villages, including therefore every inland town, except where the residence of a government may be established, will be left to the enterprise and judgment of individuals.

5. Certain lands, to be properly marked out in maps exhibited at the land-office in the colony, will be set apart for roads and other public purposes, and will be regarded as inalienable public property. But it is not intended, unless in very special and rare cases, to make any reservation of minerals, and all deeds of grant, therefore, will convey to the purchaser every thing above and every thing below the surface.

6. Purchasers in the colony must buy their land at the office for crown lands in the district of Port Philip.

7. Purchasers in England will have to deposit their purchase-money with Mr Barnard, the crown agent for the colony, No. 2, Parliament Street, from whom they will obtain a receipt, on production of which at the office of the Colonial Land and Emigration Commissioners, No. 9, Park Street, Westminster, they will be furnished with an order, stating the number of acres which they have purchased, and directing that this quantity shall be granted to them upon their naming in the colony the spot of unappropriated land which they shall select.

8. The charts and registers to be kept in the land-office at Melbourne are intended to furnish full and ...formation of all appropriations of land, and ...propriated, and of all por-... And each

11. Persons who ... above advantage, will be required to ... lists of the names and descriptions of the ... propose for a free passage within six mont... of their purchase, after which time no fur... any nomination for a free passage will ... Purchasers of special surveys, however, w... eighteen months.

12. In the older parts of New South W... tuting what will henceforward be called ... district, land continues to be sold by auctio... price of 12s. per acre, in lots of 640 acres, ... mile.

13. Should any person, intending to p... in this portion of New South Wales, thi... deposit money in this country, in the mod... tioned, he will receive from the Land and ... Commissioners an order entitling him to ... corresponding sum in the acquisition of ... public sales in the colony, and he will b... nominate emigrants for conveyance to S... the same rules and regulations as above r... the district of Port Philip.—By order of t...

S. WALCOTT

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2. Persons, therefore, who are pro... colony to buy land, or invest a small c... are not eligible for a free passage.

3. The classes most in demand may ... follows:—shepherds and farm-servan... employed in building, such as carpente... terers, bricklayers and stone-masons, ... brickmakers; country blacksmiths, wh... wheelwrights, and a moderate numb... shoemakers.

4. The emigrants are required to ... of married people and their families.

5. Single women without their pa... missible if they are emigrating un... care of some married relatives, ... domestic servants to ladies going out ... in the same ship.

The most useful of this class m... mestic servants, as just alluded t... young women accustomed to farm...

6. Single men cannot be allowe... not exceeding that of the single ... ship. If named by a land purch... accepted in case the same party

lement. They both possessed a small patrimony, ch they carried with them as a capital to adventure heep-farming, or any other suitable line of business. vessel in which they sailed reached the Cape on the of July, and Port Philip on the 18th of September, ding the voyage in five months. In the first letter, tion at sea, after describing the early part of the age, and a visit to Bahia, on the coast of Brazil, the ter proceeds—"From Bahia, we got two new pas- gers who had come from England, and had been ed to put into this port, in consequence of the bad e of the vessel, which was here condemned, and they e waiting for an opportunity of getting forward to tralia. Both are Englishmen, and uncommonly eable; and we have got a great deal of information n one of them regarding the Australian colonies, in ch he was long resident. He confirms all the ideas d formed of the country of Australia, and considers two or three individuals going to the bush and ing some sheep, is the safest and best way for in- ing a small capital, as a concern of that kind is aged at very little expense, and, with economy, will doubt pay. When stating my fears of an inexpe- ced person not being able to go about the matter perly, he said that in three or four months one would uire all the knowledge necessary; and he kindly , that, if we chose, we might go to his farm in Van men's Land for six or twelve months, and he would ery glad of our assistance, as the shearing time will approaching when we arrive, but would not recom- d settling there, as he considered Port Philip the situation. We are, from this and other circum- ces, resolved, on arriving at Port Philip, and while vessel lies there, to take a turn into the country; should matters be at all as they say, and if we can our bills cashed at a reasonable rate, we intend aining there.

n the 11th we came in sight of land, and by three ock afternoon were pretty close in shore, which put in mind of the Yorkshire coast, precipitous and ky to the water's edge. The land was covered with shwood, and looked wild and pretty; and I did not at all disappointed with our first view of Australia ix, though some of our passengers did. The wind tinued unfavourable for four days, during which we ked out and in, making little progress to the east- d [what a want of a steam-tug here!]; but the ap- rance of the country improved much, being now hed with forest down to the shore, and we frequently inguished fires which the natives raised as signals. land we made first was betwixt Portland Bay and e Otway. On the 17th, we entered Port Philip Bay a very narrow entrance, not more than half a mile ad; but on getting through what are called the eads,' the bay opens up into a fine sheet of water, newhere about thirty miles long and twenty broad. country on each side is richly wooded, and rather h. We sailed up in the afternoon, the bay being as m as a loch, with the sun shining clear and beautiful, making us pleased with the new country. We got ore in the morning, and found that we had to walk miles to Melbourne. The appearance of that town, capital of the Port Philip district, was strange to —a great many brick houses and tents being scattered ut here and there. The price of provisions is asto- hingly high, but is more than compensated by pro- tionately high wages. All the mechanics on board re engaged the first day at 12s. per day, and people lting and coming on board to get them. We had bills discounted—the thirty days' ones at 2 per cent. mium, and we got 5 per cent. interest from the banks deposits; for money lent, the common rate is 15 cent. The price of sheep is high, from 30s. to 40s., after the clipping time they will fall, and so also l the other provisions, as there is promise of an ex- lent crop. This is really an astonishing place, for years ago there was nothing but a few mud huts l tents, and now it is assuming the appearance of a ular town. Already, the port is supplying what

places with cattle and sheep; there are now four square-rigged vessels lying here, one of them waiting for a cargo of wool for London, besides various small craft engaged in the coasting trade. We will go into the country, and should we not meet with any thing to suit us in the way of a situation (for we will not lay out our money till we acquire a knowledge to do so advantageously), we will return to town, and have no doubt of getting employment."

Our next extract is from a letter dated January 1840. "When I wrote on arrival, I did not think it would be advantageous to buy sheep, from the highness of their price. I could have got a situation in a merchant's office in Melbourne, with a salary of L.130, but, after all, did not like taking to the pen again. Having been introduced to Mr ——, we visited his station, about seventy miles from Melbourne, and there we bought 500 ewes. We lived there nearly two months, and got a good deal of insight into the business of sheep-farming; were it such a science as it is at home, I would feel a little afraid of succeeding, but there is really no mystery about it. We left that station the day after Christmas, and proceeded with our sheep about twenty-five miles farther up the country, where we are now settled, and have got our hut erected. It would be impossible to give you an outline of all the adventures we have encountered up to this time, and I am so hurried as to be able to write only in snatches. You will have heard that we are settled in company with Mr —— and Mr —— [two acquaintances], which is for the purpose of avoiding the expense which a small number of sheep take." Here we stop to say, that in a letter from the other brother, it is explained that they had procured a license from government to graze and pasture in a certain district, thus avoiding the necessity of buying land; and the following account is given of the sheep-purchase and plan of settlement:—"We have, after many doubts and fears, fairly commenced sheep-farming, having purchased 1080 full-monthed ewes at L.1, 1s. each, merely as a sort of beginning. There are four of us concerned in the undertaking. We have begun on a very economical system, managing the sheep ourselves, one of us going out with them for a week alternately, while the others are doing any thing about the place. We run the whole in one flock, till the lambing, which takes place about the middle of March, when we will require to take another man. We have one man-servant already, who drives and looks after our bullocks, besides making himself generally useful. The sheep require the utmost care and attention possible. One has to take them out at sunrise, so as to get the dew, and remain with them the whole day, bringing them back at sundown. They require to be always watched, both in consequence of the natives and wild-dogs; the dogs are most to be feared, as they often rush into the flocks by day, and sneak into the pens at night. We have as yet escaped both evils; but I have seen as many as six killed in a flock in one night by the wild-dog. The sheep here are very subject to a disease called scab, but it just requires care in looking after to be kept under. I think, if wool keep the same price, we will get about 1s. 5d. per pound, the produce averaging 3 lbs. per sheep, washed. I hardly think the wool will clear our expenses this year, but then we have the increase always coming on; and although the way we live is far from comfortable, in a wretched turf hut, shut out in a manner from all the world and every sort of society, still I have no doubt the thing will pay."

Speaking of the appearance of the country, one of the writers observes—"The aspect of the country, you are aware, is flat, and appearing at a distance as if thickly wooded; but when you enter this woody district, you find generally the trees a good deal separated from one another, with sward among them. This is considered the best ground for sheep, as it affords good shelter from the cold, and shade from the sun. There are really many beautiful parts, and more like the park *scenery around a nobleman's seat* than a wilderness. But there are other places which look as wild as you can conceive—immense plains with n short grass on them—no water—and stretc to the horizon. You cannot see a tree or a them; and they are only inhabited by turkeys, and snakes. The grass in most pa plains affords excellent pasturage for sheep, the want of wood and water, they are use must be near some river or water-holes, in the sheep may drink every day; this they do when there is no rain and the weather ha for some time, when the grass becomes so d you take a little you can rub it in your han like snuff. Our place is very pretty, being or water-holes, which are connected with which we do not know the name. These [or series of pools] run during winter, but in the summer, except the very deep holes. are some large gum-trees, some fallen into and some half buried, but still flourishing, grass long and luxuriant, and forming excell for our bullocks. Our hut is placed a few these holes, with the sheep yard immediate on one side we have a woody country, going body knows how far, affording shelter to th kangaroos, and emus."

From other passages in these letters, we the writers are far from being satisfied with ation—the miseries of living in a turf-built swarms of fleas—the dreadful solitude they pelled to endure, being twenty miles from settlement—their half-savage mode of life— collections of home—all tend to inspire distas lot. We believe that such sensations are all young emigrants who have abruptly le society and plunged all at once into the ne of sheep-farming in the wilderness. It is of i to observe, that no one in such circumstance sonably expect to avoid experiencing such Take any man from a counter or desk, much a respectable drawing-room, and oblige him to the drudgeries of sheep-farming even in Li or Roxburghshire, and he would in all likel precisely the same disgust. But such dis must only have a temporary operation. Aft while, the man's nature will become in some accommodated to them: they will be in th diminished, and other circumstances will aris liate and compensate for them. All, then, emigrant has to contemplate at the beginnin he is to get over the first shock. That passed be hoped that, with a fair share of vigour a verance, he will begin to find pleasures he contemplate in a simple rural life.

The last letter of our two young friends, da 1840, tends to support these views. It is wr much more cheerful spirit than those previo things having begun to improve in appearan lambing season had passed, leaving fully a young lambs, and another dropping equally expected in November; "but," says the write has been a great outlay, and there will be litt till the third year; the wool should then pa penses, the increase of flock being the profit. stock we will have to sell will be wethers, w at present selling for 20s. each." The party begun to cultivate a few acres of land, for th of raising wheat, which is excessively expens colony, also to lay out a garden, and to rear fo only drawback, it is added, is the *want of labou* this keeps every thing behind. The writer n laughs than laments over "the domestic arran of the hut: one of his companions had comm wife from Scotland, and sent for two nephews in the farm, while all were looking forward to of moderate prosperity and comfort.

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ERS'S

R THE PEOPLE.

HAMBERS, EDITORS OF CHAMBERS'S
CATIONAL COURSE, &c.

VED SERIES. PRICE 1½d.

LAND AND NEW ZEALAND.

gain, very poor, presenting a cold thin soil, of little alue. Van Diemen's Land, though it cannot be called well-watered country, is yet much superior in that respect to New South Wales. Besides several extensive akes scattered throughout the interior, it possesses a onsiderable number of rivers; and in almost every istrict of the island water is to be found. The names f the two largest rivers are the Derwent and the amar.

In another important particular, this island is peculiarly fortunate, that is, in the number and capacity of s harbours, no place of similar extent in the world robably being equal to it in this respect. The principal harbours are—the Derwent on its southern side, ort Davey and Macquarrie Harbour on the western, ort Sorrel and Port Dalrymple on the northern, and yster Bay and Great Swan Port on the eastern coast. esides these, there are many other harbours, bays, nd creeks, distributed all alongst its shores. The oast is in general high and rocky, particularly on the outh, east, and western sides of the island: on the orth, however, it presents a line of low alternate sandy eaches, on which the surf rolls with great impetuosity uring the prevalence of northerly winds. From the xtremely hilly nature of the country, there is but a omparatively small proportion of it adapted for the lough, though presenting abundance of excellent pasurage. The extent of really available land throughout he known part of the island, has been estimated at one-hird of the whole, and this is again divided into four arts, giving one for the plough and the other three or pasture: thus, out of 1000 acres of land, about 100 vill be found fit for cultivation, and from 300 to 400 or grazing. This is, of course, a rough estimate, and nay be found not to be correct in many instances, but n general we believe it will not be far from the truth.

DIVISION—DISTRICTS, &c.

Van Diemen's Land was originally divided into two ounties, Buckingham and Cornwall; the former occuying the northern, and the latter the southern portion f the island. These counties have been again subdivided into the following districts:—Hobart Town, New Norfolk, Richmond, Clyde, Oatlands, Oyster Bay, Campbeltown, Norfolk Plains, and Launceston.

Hobart Town District, though the smallest in extent f any in the island, is yet the most important in the olony, as well from the circumstance of its including Hobart Town, the capital of the island, as from its possessing many superior local advantages; and, amongst hese, that of its being accessible by water on three lifferent sides—by the Huon River, which forms its outhern boundary, by the Derwent on the north and ast, and by the sea on the east. The whole district, ncluding the island of Bruny, which lies off the mouth f the Huon River, and forms part of it, comprises 400 quare miles, or about 25,000 acres. The country in

this district, however, is in general so hilly, that out of these 25,000 acres there are not above 1600 under tillage; and it is said that the first cost of clearing and preparing these lands for the plough greatly exceeds what they would now bring altogether if put up to public sale. The best and principal farms here are situated on the banks of the Derwent, and south of Hobart Town in the direction of Fairlie's Cove; behind this interiorly there are but few locations, nor does the appearance of the country tend much to invite future settlers, the soil being in general so thin, and so heavily encumbered with trees, that even its vicinity to the capital is scarcely an inducement sufficient to any one to attempt its cultivation.

In this district, Hobart Town, the capital of the colony, as we have already said, is situated. Hobart Town is built on the left bank of the River Derwent, at the head of a beautiful cove or bay, distant about twenty miles from its junction with the sea. The town is pleasantly situated on a gently rising ground, which, gradually retiring, terminates ultimately in hills of considerable height, covered with wood, and presenting a most romantic appearance. These, again, are overlooked by one of still greater altitude, called Mount Wellington, which rises to the height of 4000 feet above the level of the sea. Hobart Town is thus happily placed between highly picturesque hills on the one hand, and a beautiful bay or arm of the sea on the other; for, though the Derwent be here called a river, it can be so called only in a very extended sense, the water being still salt, and of considerable width. The town itself covers somewhat more than a square mile of ground; the houses are principally constructed of wood, though many of them are of brick and freestone. The streets are regularly laid out, and those of them that have been completed are macadamised, and present on either side long rows of large and handsome shops. The town derives a peculiar and highly pleasing character, too, from the circumstance of the houses in general standing apart from each other, each having a small plot of ground, from a quarter to half an acre in extent, attached to it. Its public buildings are numerous, and many of them would be considered handsome even in Britain. The town contains breweries, tanneries, distilleries, flour-mills, two or three banks, hospitals, churches, schools charitable and stipendiary, inns, taverns, hotels, and grog-shops *ad infinitum*, and every thing else which bespeaks a thriving, bustling, industrious, and civilised community. Nor are they behind in the department of literature: two or three newspapers are here published weekly, besides a yearly Almanac, containing a great deal of statistical and other interesting information regarding the colony, and an official Gazette.

New Norfolk District lies immediately behind the former, and is entirely inland, no part of it approaching the sea: its extent from east to west is about fifty miles, and from north to south about thirty—thus comprising 1500 square miles, or 900,000 acres. This district is in general much more fertile than that of Hobart Town, returning on an average from six to eight bushels of wheat per acre more than the latter. The farms, too, are of much larger extent, many of them amounting to 2000 acres, some of which are delightfully situated on the banks of the Rivers Derwent and Jordan, the latter of which streams, after passing through an exceedingly beautiful tract of country, ultimately falls into the former at a place called Herdsman's Cove. In this district there is also a large proportion of rich sheep pasture. New Norfolk is intersected, in a north-westerly direction, by a chain of lofty mountains, covered with the most magnificent timber, and exhibiting snow on their summits throughout the greater part of the year. From its vicinity to Hobart Town, and the advantage of water carriage which the lower part of the district possesses, there is a greater proportion of agricultural produce raised in it than in many of the other districts. It is remarkable, however, that, with all its superiority of soil, its crop of potatoes is about one-seventh less than that of the Hobart Town district. Here is a p situated little town or village, bearing the na district, and distant from Hobart Town abou two miles. A coach and van, the former horses and the latter with two, run daily b and Hobart Town; besides these, there is a plying on the Derwent between the two place

Richmond District extends on the sea-co Prosser's River to Tasman's Peninsula, a trac terrupted sterility, being rocky, mountainous, a to the last degree. The ridge of bleak and tive hills which run through this whole le heavily timbered, and never can be made in available to the purposes of man. On the sid Derwent, however, which bounds it on the sout still hilly, there are a number of beautiful a valleys; and around Pitt Water, a salt-water l miles in length and three in breadth, there i derable portion of comparatively level land of description, and well adapted for agricultural In this district there are two towns or villag mond and Serrel; the first fourteen, and th twenty-two miles distant from Hobart Town. latter there are several good inns, a parsona church, jail, &c.; the former is not so well with inns, but there are several respectabl houses. Serrel is situated in the fertile locali Water, and is surrounded on all sides with highly cultivated farms. This district contai ther about 672,000 acres, or about 1050 squa

Oatlands District is separated from the se of the Oyster Bay district, and bounded inte on the west, by the district of Clyde, and on by that of Campbeltown. This district is tively but of small extent, and forms a square thirty miles on each side, containing 900 squa or about 576,000 acres. Though one of the subdivisions of the island, Oatlands is one of possessing, perhaps, a greater proportional cultivatable and grazing land, and that of t quality, than any other locality of similar boun island; its beautiful open and extensive down the richest pasturage, and its arable lands ar fertile and productive with the best in the col is besides most advantageously situated, occ central position between Hobart Town and Lau the next town in the island in extent and impo the former. The advantages which this distr sents have been duly appreciated, and a grea portion of it, taking its limited extent into has been located than of any other distric colony. Coal is found here, but in too remote tion to afford any profit in the working. Wit district are situated what are called the S Plains, a beautiful level tract of fertile country, miles in extent, terminated in the distance ranges of the most magnificent hills. Thes derive their somewhat singular name from thr lakes, or ponds, which are so strongly impregna salt, that they yield by a natural process ma of that essential article of life annually. This not equal in quality to English salt, but, neve brings 10s. a-hundredweight in the colony. T of Oatlands, situated in this district, fifty-one mi Hobart Town, contains a military barracks, a inn, several large stores, and a number of w houses.

Clyde District comprises about 1700 square m 1,088,000 acres. This district is in general hi affords excellent and extensive pasturage. Its ness from Hobart Town, and the difficulty of tra ing agricultural produce to that market, from good roads, has tended to keep it almost exclu pastoral district. The proportion of cultivat here is exceedingly small. Some of the best g farms, however, in the island, are to be found district, many of them covered with the immens and herds of the various settlers. This district advantage of many of the others in the colony

square miles, or about 2,500,000 acres. The greater of this extensive district is wholly useless for any e purposes of man, being barren, sandy, rocky, and ntainous, and in many places altogether inaccessible. withstanding of this, however, it is considered the in importance to the Hobart Town district, from circumstance of its possessing the second largest in the island, namely Launceston, situated at the tion of the North and South Esk, at the head of navigable portion of the River Tamar, which disges itself into Bass's Strait, about forty-five miles w the town. The town presents a very business appearance, with its shipping, wharfs, stores, and ic buildings, all calculated to impress the stranger, on a cursory glance, with a favourable idea of ding importance. The court-houses, soldiers' bars, female factory, &c., stand near to the junction, very fine situation. The male prisoners' barracks ear to the North Esk. There are two finely-built shes here, the Episcopalian and the Scottish Presrian, with numerous and highly respectable conatices. There are, besides, meeting-houses of v other sects, all of whom receive pecuniary supfrom government, in proportion to the number of bers who attend them; also several societies of a volent and useful character, deriving their chief ort from the liberality of the inhabitants. The ange or reading-room, which would not disgrace of the more populous towns of Britain, contains xcellent selection of papers from the other colonies, well as from the mother country. There are sev banking-houses, inns, warehouses, and shops of perior kind, having almost every necessary and ry used in civilised life, and which are obtained at moderate rates. The private residences of the bitants are elegant and substantial, and prove that the architect and the tradesman are to be found is colony. From the favourable nature of its situafor commercial purposes, the river being navigable essels of 500 tons burden up to the town, the trade Launceston is very considerable, and is every day easing. The chief exports are wheat, bark, wool, whale-oil. In connexion with the post-office, custouse, and commercial establishments, a telegraph been erected on an eminence called the Windmill This is of great consequence to the merchants, ascertain, by a code of signals devised for each cantile house, when a vessel either enters or clears heads of George Town; the vessel being scarcely e cove, when the owner or consignee, thirty miles nt, is put in possession of the fact, through this llent medium of communication, where steam-boats tage-coaches are yet awanting. There is a strong ability, however, from the enterprise hitherto dised by the inhabitants, that this want will not have long complained of.

r Russell, a young Scotchman, made a tour in the tralian colonies in 1839, during which he paid a to Launceston district in Van Diemen's Land; from his remarks on the country we offer the folng extract:—

The banks of the River Tamar are of a most rotic description, rather thickly timbered, with here there a comfortable-looking residence, having the cleared in its neighbourhood: the fields produce llent crops. Several flour-mills, &c., are here also, having great facility in conveying produce by s to any place either up or down the river.

he appearance of Launceston harbour, from its ral advantages combined with a class of very enterng merchants, would lead one to suppose that they entering a port in old England. The shipping of this has increased very much of late, both in tonnage in number. Where vessels of 150 tons burden formerly brought up with difficulty, others of 500 now fill their place easily, many of these at present here conveying immense quantities of wheat, flour, hay, to Sydney, Adelaide, and Port Philip, the late ght having caused a scarcity in these colonies,

while this part of the island, from its geographical position and richer soil (though limited), grew crops sufficient to prove its superiority as an agricultural district. Any one visiting the farms on the banks of the Tamar, North Esk, or Norfolk Plains, will cease to wonder at the shipments of grain and other produce. It has formerly been termed the granary of New Holland, and now fully realises the title. Farmers usually get convict labourers assigned to them by government, which is of much consequence, where free labour is yet scarce. Extensive establishments are provided with one or more mechanics; they being of greater value, are estimated as worth two or three labourers, and assigned accordingly. Female convicts are also assigned; the parties binding themselves to furnish all such servants with rations and clothing, agreeably to a government scale furnished them.

There are some fine thriving country towns in this northern district, amongst them Campbeltown, Longford, Evandale, and Perth, which is beautifully situated on the banks of the Esk. Two bridges of considerable dimensions are in process of building across this river, the churches, mills, &c., forming a most picturesque scene. There are also stores for merchandise, and inns for accommodation—two very necessary appendages in country settlements.

The roads in Van Diemen's Land are rather superior, from the quantity of metal always to be had, and the numerous chain-gang parties constantly employed in making and repairing them. Tolls are yet unknown here. In general, the drays used for conveying all kinds of material, are drawn by teams of bullocks, consisting of from two to eight in number, as the occasion requires. The traffic along the different roads with vehicles of all sorts is very great, including mails, stage-coaches, tandems, &c., up to the rolling carriage with liveried servant; some the result of unsurpassed industry, and some through means more equivocal. There are many singular instances in the changes of fortune these colonies have produced on the persons and in the circumstances of individuals sent out here for punishment originally.

The road between Launceston and George Town is at present but a bush one, every one striking off the different turnings as their fancy of saving distance leads them, always converging to the common track at some place or other. At present, however, there are some gangs at work, forming an excellent road, which will soon be in use. I had a good opportunity of seeing the fertility of soil on the banks of the Tamar, when on a visit to a family, and of being still more strongly convinced, that here, as every where else, farming requires considerable attention in taking the advantage of seasons. During the past season, notwithstanding the drought, this industrious class have had excellent returns from their crops. The growth of vegetables, &c., at this farm, particularly attracted my attention beyond any thing I had ever seen in Europe.

Among the many instances of individual enterprise that could be given, is one, where a bridge connecting the north and south banks of the North Esk, was erected through the spirited exertions of a merchant, who is a native, and an honour to the colony which gave him birth. This erection is a fine light structure, and suited for all purposes. I understand that government afterwards compensated this gentleman by some grants of land.

On Norfolk Plains are some extensive and fertile farms, having very excellent steadings. The houses are principally built of brick, having the roofs shingled, that is, covered with pieces of wood similar in size and shape to the common slate.

It has been remarked by almost every one who has visited this island, that cattle and horses thrive remarkably well upon it. The horses used in harness struck me as being much finer than those across the straits, where they exhibit a more relaxed appearance. Here, from the climate being rather cooler, the richness of food grown, and moderate labour, they exhibit plumpness and action at the same time, superior t saw in South Australia. Shortly before my a Launceston, there was said to have been a fin of saddle-horses at the annual races, which to on the course, a flat piece of ground on the ba North Esk, well laid off, and having high la neighbourhood, apparently very suitable for purpose. There is also sport of another kind t with the kangaroo and opossum, which are ve ful on this island. The skins of these animals verted into many purposes, such as shoes, rug

The land on the North Esk, and that which the line of road to Hobart Town through Per and Campbeltown, as far as Oatlands, is toler cleared of timber, and many extensive fields &c., are to be seen. This latter place lies a centre of the island. The country from thence Hobart Town becomes very hilly, with here a a few farms in the valleys; the bush, of course sheep, horses, and cattle in abundance depast its soil. The harvest of Van Diemen's Land commences in February. Around the capital to be some fine spots. The government garde three miles distant, are considered worthy o from the many exotics and fruits grown apples, pears, and all other English fruits, gr great perfection. The grapes raised against are as large as those of Spain or Portugal; bu who has spent much time in all these places this Tasmanian crop deficient. As in the other many of the settlers here have been officers in and navy, grants of land being given them on from active service, which has, no doubt, tend to the formation of an excellent community civilians who ventured their future happiness grating to this island, have been very prospero cipally by dint of determined perseverance."

CLIMATE, SOIL, NATURAL PRODUCTIONS, &c

The climate of Van Diemen's Land is exc pleasant and salubrious, and is especially ad the constitutions of the natives of Great Brit heat in summer is not so intense as that of A not often much surpassing that of London southern parts of England; while the morni evenings, even at the hottest periods of the always cool and agreeable. The cold in wint ever, though mild when compared to what rience at that season, is more intense and o duration than that of Australia, snow lying fr on the higher mountains throughout the grea of the year; but in the valleys and lower di seldom remains more than a few hours. Th net yet appeared any diseases which can be be peculiar either to the climate or to the and, on the whole, the chances of life are e to be considerably more in favour of Van Land than of Britain or any other of the most parts of Europe. Colds are sometimes e winter, but never prove fatal unless negle is not subject to any extremes of heat or c seasons are regular, mild, and agreeable; th sphere constantly pure and elastic; and the s unclouded, and brilliant. The average numbe on which rain falls throughout the year, is f to sixty. The island possesses a considerable of trees and shrubs. The gum-tree is the larg there are numerous others well adapted for house building. The trees are all tall and branching only at the top, and they are nearly greens. The bark of the trees is in general of a complexion as to give them the appearance been peeled, and their leaves are long, nar pointed. All the vegetables and fruits known tivated in England and Scotland, are raised difficulty—apples, pears, plums, gooseberries, which the warmer temperature of Australia vourable, are produced here in great abund of excellent quality. Both the climate and the

erpents nearly the same; its climate being sure, somewhat modified, and its soil in general not ussilly differing in quality. Its animal productions nearly the same with those of Australia, consisting he kangaroo, opossum, squirrel, &c. The native however, as well known in the former country, is

BASS STR.
Tasmania or Van Diemen's Land
Port Dalrymple
Port Dalrymple
Ben Lomond or Dunn
Tasmania or Van Diemen's Land
Great Oyster Bay
Great Oyster Bay
Prosser's B.
Prosser's B.
Storm B.
Storm B.
Storm

not to be found here; but in its place there is an animal of the panther tribe, which, though it flies from man with the timidity of a hare, is yet extremely destructive to the flocks of the settlers, amongst which it frequently commits the most dreadful havoc. This animal attains considerable size, having been found in many instances to measure six feet from the snout to the extremity of the tail. The birds of Van Diemen's Land are the emu, or Australian ostrich, parrot, cockatoos, herons, swans, pelicans, &c. There are here, too, a considerable number and variety of poisonous reptiles; but these, on the whole, are neither so numerous nor so venomous as in the sister colony.

The seas around Van Diemen's Land abound with whales, dolphins, and seals, and its shores with shell-fish, particularly the mussel, these last literally covering the rocks on its coast, and in its bays, creeks, and harbours. Oysters were once plentiful, but they have become almost extinct.

The leading if not almost the only misfortune under which Van Diemen's Land labours, is a deficiency of good roads. This prevents all communication on a profitable or convenient scale, except in the few cases in which proper thoroughfares have been made. Mr Dixon, a late writer on the country, observes, that the cost of transporting farm-produce a distance of thirty miles, is as great as is the cost of bringing the same quantity of articles from Great Britain; in other words, a barrel of beef can be sent from London to Hobart Town for the same price as it could be sent from thirty miles inland to Hobart Town. If this be true, it is a fact most disgraceful to the local authorities; for without good roads it is utterly impossible to carry on agricultural operations with advantage.* The statistical accounts of the island mention, that latterly great improvements have been made in this respect, there being now upwards of 100 miles of macadamised roads in the colony, also several bridges, and good cross-roads; but we fear that much still remains to be done to extend the means of communication.

GOVERNMENT.

Van Diemen's Land is now an independent British colony. Till the year 1825, it was a dependency of the colony of New South Wales, but in that year it received a government of its own. The internal policy of the island is now conducted by a lieutenant-governor, and an executive and legislative council. There are also here a chief-justice, attorney-general, and all the other appendages of a supreme court of judicature, courts of requests, attorneys, barristers, solicitors, proctors, sheriffs, justices of the peace, and the whole of the paraphernalia of civil and criminal jurisprudence known in this country. There are, besides, as in New South Wales, a number of police magistrates, each having a separate and distinct district under his judicial authority; these are, as in the former case, stipendiary. The laws here are the same with those in England, in so far as the circumstances of the colony will admit. The members of all the civil institutions are appointed by the crown, consisting, in the executive council, of four in number, including the governor, and in the legislative of fifteen, also including that officer. The expense of the judicial department amounts to about L.13,000 per annum, and the ecclesiastical to about L.6500. The military and convict establishment are paid by the mother country. The governor's situation is reckoned worth L.5000 per annum, although his net salary is only L.2500; the difference is made up by taking into account various items, such as furnished houses, gardens, farms, servants, horses, cattle, sheep, pigs, poultry, fish, &c.

Society in Van Diemen's Land, like that of New South Wales, is made up of free settlers who have emigrated from this country, and of convicts. is so much alike in both countries, that it is sary for us to say any thing regarding it in th The convicts in Van Diemen's Land are in all treated the same as in New South Wales, article we refer for particulars. There are gines now in Van Diemen's Land, these hav lately conveyed to an island in Bass's Strait order has been issued by the home govern their removal to Port Philip district, New Sou Regarding the bush-rangers, or runaway from the effective police force kept up, their tions are confined to the less populated distr even there they seldom exist long without b tured. We understand, that while we are no measures are in the course of adoption for altering the mode of convict management an and leaving the colonists to be more depende assistance of free labourers than formerly. information may be obtained on this point o in the colony.

We gather the following information respe condition of Van Diemen's Land from an offici drawn up by the Colonial Secretary to the go for the years 1836–7–8, and published in th Town Courier, 1839. It appears that the fixed of the colony has increased from L.91,320 in L.98,081 in 1838, although in the interval t been a decrease of L.18,000 on the annual reve spirit duties. The number of licenses grante licans and wholesale dealers in spirits has be derably diminished. The annual expenditu colony has correspondingly increased from L in 1835 to L.138,681 in 1838: much of this however, is caused by the colony now bearing of the police establishment, formerly paid by t government. The number of vessels cleared in 1835 was 229, with a tonnage of 55,853; in number of vessels had increased to 370, with a of 64,454. The number of vessels cleared out 1835 was 225, with a tonnage of 53,560; in number was 369, and the tonnage 63,392. The of vessels belonging to the colony had increase years 40 per cent. In 1835 five vessels were the colony, with a tonnage amounting to 382, 1838 the number built was ten, tonnage 1267.

It also appears that the number of acres in increased from 87,283 to 108,000, or nearly 24 The number of horses had increased at the r per cent., and that of sheep from 824,256 to 1 Manufactories and trades are progressively in in almost every branch. In 1835 the number driven by water or wind was 47; in 1838, 51 place of one formerly driven by steam power now two.

PASSAGE.

Van Diemen's Land is sooner reached t South Wales (the distance from Hobart Town ney being about 800 miles); on which acc charge for passage to Hobart Town is in gener pounds less than to Sydney. For a single m cabin, including provisions, it is about L.5 former, and L.55 to the latter; and in the about L.21 and L.23: the difference, in short, L.5 in the case of a cabin passenger, and fro L.3 in that of a steerage passenger—in both sage-money for a married couple is somewhat double. Each passenger is allowed a certain of luggage freight free, generally about ha although in this particular there is a conside ference with different ships, some giving mo greater number less.

SUITABLE OCCUPATIONS.

We have no doubt that in time Van Dieme will form a beautifully cultured and large food ing country, perhaps as much so in proporti size as England. The present preventives of

* Mr Dixon's observations on the state of the roads are completely at variance with those which we have quoted from Mr Russell. Perhaps the roads are good in one or two lines of route, but indifferent in others.

obart Town prices current states wheat to be from
s. to 11s. per bushel; oats, 6s.; hay from L.5 to L.7
r ton; potatoes from L.7 to L.7, 10s. per ton.
The management of sheep and wool is much the
me in Van Diemen's Land as in Australia, and a
scription of it need not here be repeated. To show
e progress which this branch of industry is making in
e country, it may be stated, that the amount of wool
ported in 1836 was 1,985,788 lbs., and in 1837 this had
creased to 2,455,610. From all we can learn, the
crease of stock in Van Diemen's Land is much the
me as in New South Wales, namely, 20 per cent.,
d the loss from deaths, &c., about 5 per cent.
Besides the growing of wool, there is another ex-
edingly promising source of wealth open to the settler
this is the dairy, which seems to be strangely ne-
cted in the colony, although the demand for this
icles of produce is great, and the prices even extra-
gantly high; butter readily bringing 2s. 6d. to 3s.
r pound, and colonial cheese 1s. to 1s. 3d. per pound.
t, with all its vast extent of rich pasturage, and its
numerable flocks and herds, Van Diemen's Land im-
rts both of these articles from New South Wales and
e Cape of Good Hope. Indeed, in the former country,
ere is more than one person who, wisely devoting
emselves to this profitable branch of farm-produce,
e rapidly realising fortunes. Any person, therefore,
ing out with a thorough knowledge of dairy matters,
uld assuredly find his account in it. The cattle in Van
emen's Land are certainly much inferior in general
what they are in this country, and therefore a similar
turn as to quantity could not be expected, but still
at return would be amply sufficient to realise a very
ndsome yearly profit to the dairyman. The person
ing out there, or indeed any other who intends graz-
g cattle, would do well to take with him a quantity
English grass-seeds of various kinds, and particularly
utch clover, which, when once settled, he should
ways carry about with him, sprinkling it here and
ere as he goes over his pasture-lands, as the sameness
the grasses in Van Diemen's Land, notwithstanding
eir richness, has been found injurious to the health
the cattle. On reaching his destination, he will learn
at a little salt also, placed in situations where it may
at once kept dry and be within the reach of his
ttle, will be exceedingly beneficial to them.
The manner of feeding and rearing cattle is in every
spect exactly the same in Van Diemen's Land as in
ngland and Scotland, and their farming is also nearly
e same, differing only in so far as a greater degree of
at in summer requires that it should. There is an
a gone abroad, that all the good land in the island is
ready in the possession of settlers; but this report
incorrect: there are many millions of acres of fer-
e country still to dispose of. Probably by much the
eater part of the best situated lands, in so far as a
ntiguity to market or to points of embarkation is con-
rned, is already in the possession of private persons;
t there is much valuable ground in the interior un-
cupied, particularly a fine newly discovered tract at
e back of Mount Wellington, which will alone afford
cellent locations to all who may seek them for some
ars to come.
A recent writer in the Colonial Magazine, Mr David
rd, a settler in Van Diemen's Land, says, that the
ots occupied form a mere belt along the valley of the
erwent, and that there is abundance of land in other
rts which has not been even surveyed. "There is
uch land, too, which has been despised for its sandy
rface, but a stiff clay generally lies beneath, and it is
ll known what trenching such ground effects. There
e other spots, covered with large surface stones,
most approaching to rocks, that, from the grievous
nt of labour, it becomes almost impossible to con-
rt to a fitness for agricultural purposes, although,
en so converted, they have yielded a most liberal
turn." Land is sold in Van Diemen's Land by public
ction, in lots of one square mile, or 640 acres, at an
set price of 12s. per acre.

The demand for mechanics is equally great in Van Diemen's Land as in Australia, and the encouragement the same. The description of mechanics most in demand here are coopers, ship and house carpenters, cabinet-makers, joiners, wheelwrights, brickmakers, sawyers, quarriers, stone-cutters, and masons. The wages which these receive vary from 5s. to 8s. per day, according to the ability of the workman. Living is said to be higher here than in New South Wales, but from all the information we have been able to procure, articles do not appear to be dearer in the one place than in the other. Beef sells at from 5d. to 8d. per lb.; mutton, 5½d. to 6d.; veal, 8d.; ham, 10d. to 1s.; bread, 1s. 6d. per 4 lb. loaf; oatmeal, 6d. per lb.

Farm-servants and labourers are also greatly wanted in the colony, and readily obtain employment on good terms. Shepherds and good ploughmen receive from L.15 to L.25 per annum, with ample provisions, providing they be trustworthy, and well acquainted with their professions. Common labourers generally receive about 1s. per day with provisions.

Both the mechanic and labourer should be informed, also, that the colonists pay as little in money to any of their workmen as they possibly can, always stipulating for a portion of their wages being taken in produce. This does not apply so much to their principal towns, such as Sydney, Hobart Town, Launceston, &c.; but in the country it is the universal practice. Money, in short, is an exceedingly scarce commodity in the colony, and its place is as far as possible supplied with the produce of the soil.

The following announcement, relative to the conveyance of free emigrants from Britain to Van Diemen's Land, has recently been issued by the Colonial Secretary:—"1. That the sum of L.40 be paid towards the defraying the passage of a man and his wife (and children under three years of age), provided the ages of the married couple do not exceed on embarkation thirty-five years respectively. 2. That the sum of L.19 be paid towards defraying the passage of each female emigrant above eighteen years of age, and not exceeding thirty-five years, on arrival. 3. That the sum of L.18 be paid towards defraying the passage of each female domestic above the age of seventeen years, and not exceeding thirty-five years, on arrival. 4. That the sum of L.7 be paid for the passage of each child from three to ten years of age, and of L.12 for lads between the ages of ten and eighteen, and females between ten and seventeen, respectively, for whose parents or parent the rate of bounty specified in No. 1. may be allowed. 5. That there be allowed to the master of each vessel bringing out emigrants under the terms of this notice, a gratuity of 7s., to the chief mate 3s., and to the second mate 1s. 6d., for each person above one year of age, provided their conduct to such emigrants during the voyage prove satisfactory to the lieutenant-governor. 6. That parties applying for servants under the terms of this notice, be required, before receiving the bounty, to enter into an engagement to maintain them for the term of the agreement hereinafter alluded to, unless parted with by mutual consent, or discharged by due course of law. 7. That persons requiring servants under the bounties thus offered, be allowed to choose their own ships; but it is recommended that regular traders to and from the ports of Hobart Town and Launceston be selected. 8. That no emigrant brought out under the foregoing regulations be engaged for a less period than three years, under a written agreement, according to a form hereafter to be published, and to date from the day that such agreement is entered into in Great Britain or Ireland. 9. That these respective bounties be allowed for emigrants of the following description only:—agricultural labourers, shepherds, masons, bricklayers, blacksmiths, wheelwrights, shipwrights, and all other descriptions of mechanics, and male and female domestic servants."

SEASONS.

The seasons of the year in these colonies being very different from what they are in this country, we offer the following observations on the proper and mode of planting in the kitchen garden, al from the Appendix to the work of W. C. Wen The observations apply to New South Wales in cular, but may with a reasonable allowance useful as regards Van Diemen's Land:—

Potatoes, for a general winter crop in field or should be planted from the end of January to of February, or even the beginning of March, than lose the planting; and they will come into winter, when cabbage and other vegetables run The ground should, if possible, be prepared a before the planting, and a preference given country gardener to new ground, or dry wheat s where the soil is light. The town gardener shou his ground in a good state by frequent light ma In July the ground should be prepared for the s crop, at which time the winter crop will be digging; and in this process care must be taken vent the potatoes being bruised. If possible should be dug in cloudy weather, to avoid expo the sun, which would rot them; whereas, if ca preserved, they will keep sound for a length of a result the more desirable, as at this season veg are generally scarce and dear. The planting shou place in August, or even in September, if nece and at the end of the latter month, or in O they will require to be hilled and earthed, an cleansed from weeds, which must also now and done as weeds make their appearance. In the of seed for this crop, a middle-sized potato sho preferred, without any objection to their being is the customary mode of planting. In October y also plant potatoes for a later crop; and this, perhaps less abundant than that sown in August beginning of September, will nevertheless be suffi productive to pay well the expense and labour of ing. The potato is so essential and desirable an of food, that too much care cannot be bestowed culture and preservation; for should other cro short, this will afford the grower a certain me supporting his family.

Carrots and parsnips, for a general crop, may sown in December and January. The ground be dug deep, and broken up very fine. If the light, the seed should be sown on a calm day, an in. Carrots and parsnips may also be planted i and also in November. They thrive best in an situation, on a light sandy soil; and after they co should be thinned and set out with a small tw garden hoe.

Cabbages, for a constant supply, may be so January, April, May, July, August, October, and in November, at a time when the ground is in a state. The plants sown in April will not run to Care should be taken to set out the plants in a and stronger ground than the bed they are from, otherwise the crop will be poor. Their fir should now and then be weeded with the hand weather, and the freshest and strongest plants re first.

The ground for turnips should be prepared in ruary, and at the latter end of the month some be planted, for which purpose gentle showery we is most favourable. Turnips for a general crop s be sown early in March, and they will be read food for sheep in the beginning of May. During growth they require hoeing once or twice, to thi keep them clean, if the land be foul. Turnips for use may be sown at any time between March and tember, or the beginning of November, when absol necessary.

The seed of cauliflower may be sown at any tim tween November and February, but best in Dece Some sow about the middle of May for a summer and this practice is found to answer.

In March prepare the ground for onions, by b ing it up well, and richly manuring it. At the s

uth, and beginning of April, sow a light crop
ns for immediate use. In April prepare for a
l crop, which should be sown at the latter end of
uth, or beginning of May, to keep them from
o seed. When they grow to a proper size, which
from the latter end of October to the beginning
ember, they should be carefully laid down, so as
break the tops; for should the tops be broken,
e wet penetrate, the onions will inevitably spoil.
fit to draw, they should be gathered on a fine
y, and laid under cover, so as not to be at all ex-
to the sun.

ground should be prepared in March for peas
ans of all kinds, by well working and manuring;
the end of the month, and in April, they may
n for a spring crop. Some sow from the begin-
f March till the middle of June, as occasion may
e. Prepare in August for a later crop: French
may be as well sown in October as at any other

Van Diemen's Land, the farmer sows his grain
y, August, and September, which are the spring
s; in October he prepares the land for Swedish
s; in November he gets in his potato and turnip
; December is the height of his hay harvest; at
the middle of January his wheat harvest com-
s, and continues through February; in March he
ttention to his fallowing and husbandry; in April
bers his second crop of potatoes; in May he lays
his English grasses; and in June he continues
ughing and harrowing. Thus he has a continual
of pleasurable occupation in his fields.

NEW ZEALAND.

Zealand consists mainly of two large islands,
the Middle Island and the North Island, sepa-
by a passage called Cook's Straits, with numerous
r isles scattered around their shores. They lie
great southern ocean in an easterly direction
Australia, and although at a distance of about
niles from that continent, may be considered as
ing to the same division of the globe. The New
d islands lie between the 34th and 48th degrees
h latitude, and the 166th and 179th of east longi-
The southern or Middle Island is about 500
long, and from 100 to 120 broad. The northern
is the smaller, being about 400 miles long,
om 5 to 30 broad; both being estimated to con-
arly 95,000 square miles, of which two-thirds are
cultivation. New Zealand was first discovered
2 by Tasman, who, however, did not land, sup-
; it to form a part of the southern continent.
n Cook first sailed round the islands, and sur-
their shores with so much accuracy, that his
are depended upon even to the present day.
distance of New Zealand from Great Britain is
more than to New South Wales, or about 16,000
but is reached by the same line of voyage round
ape of Good Hope, the return being by Cape
Vessels reach New Zealand from Sydney in
twelve days.

w Zealand is evidently of volcanic origin, there
many extinct and a few active volcanoes in the
or of the islands. According to Mr Darwin, a
alist who visited the islands in the ship Beagle,
soil is volcanic; in several parts we passed over
and vesicular lavas, and the form of a crater
clearly be distinguished in several of the neigh-
ng hills." Hot springs have also been found,
of which are described as higher than boiling
and most of them "of a sufficient temperature to
any kind of native food. There is one spring of
y remarkable quality; it is to the touch as soft as
nd, without the use of soap or any alkali except
the water itself contains, will cleanse the dirtiest
ents, removing every particle of grease, however
sullied they may be with it." A chain of mountains runs through the whole of the southern and a considerable part of the northern island. Some of these mountains are as high as 14,000 feet above the level of the sea, their tops being covered with perpetual snow, and their sides with forest-trees and luxuriant ferns. Besides this chain of mountains, there are other subordinate ranges, which, for the most part, are covered with vegetation to the top. From their volcanic origin, these mountains are studded with large caves; the diameter of whose openings was ascertained in some cases to be above thirty feet. The mountains are all abrupt, and highly picturesque in appearance, the perpetual snow on the tops forming a fine contrast to the agreeable climate and rich vegetation of the valleys below.

There are numbers of fine streams and rivers scattered throughout the country, which have their origin in these mountains. Several of the rivers are navigable to a considerable extent, and possess waterfalls which afford the means of establishing mills in most parts of the country. From the shape of the islands, and the mountains which intersect them, the rivers do not run to any great length, from 100 to 200 miles being the average. In 1838, the ship Pelorus entered a river in the southern island falling into Cook's Straits, and sailed up nearly forty miles, and her boats continued the navigation for twenty miles farther. The River Hokianga, in the northern island, situated almost opposite the Bay of Islands, has been navigated thirty miles by vessels of 500 tons burden. Another river, the Haritoua, which falls into Port Nicholson, is said to be navigable for nearly 100 miles. Besides these, there are numerous streams which cross and intersect the country in all directions, affording abundant means for irrigation where this is necessary.

The bays and harbours of New Zealand are not surpassed either in number or advantages by those of any country in the world. Beginning with the North Island, we have first the harbour of Wangaroa, the entrance to which is narrow, but inside the harbour is spacious and well sheltered. The Bay of Islands is about twenty-five miles south of Wangaroa, and is the harbour which has been hitherto most frequented by Europeans. The entrance to the bay is eleven miles broad, and perfectly safe, there being no bar. Inside, the bay is studded with a number of rocky islands; the water is deep close to the shore, and the anchorage is excellent. This bay has been long visited by whaling vessels for supplies, and a considerable part of the surrounding country is in the possession of Europeans. To the south of the Bay of Islands is the Frith of the Thames, which contains several well-protected harbours. The tide flows in this frith to the height of from eight to ten feet, and at all times there is plenty of water for ships of almost any tonnage. The Bay of Plenty, on the north-east coast, is formed by the island becoming much broader in a curved direction. This bay is very large, and possesses an excellent harbour called Tauranga, which is much frequented for the shipment of flax, &c. Poverty Bay is the place where Captain Cook landed, and, according to him, it affords good anchorage. Hawke's Bay is very extensive and deep, the soundings showing from six to twenty-seven fathoms water. The most important harbour in the northern island is Port Nicholson, situated in Cook's Straits. This is the port fixed upon by government as the future capital of the country, and numerous settlements are now being formed on its shores. The bay is about twelve miles long and three broad, perfectly sheltered, and ships may enter or leave with any wind. The depth of water is from seven to eleven fathoms, and the whole bay is described as of sufficient capacity to hold a navy. The River Haritoua falls into this port, the banks of which are high and well wooded. Port Nicholson has the disadvantage of being upon a lee shore, but this objection can only have weight with regard to the navigation of Cook's Straits, not to vessels lying in the port itself. On the west coast of the North Island the harbours have generally

a bar at the entrance, which render their navigation more dangerous than those on the east coast. The best harbour on the west coast is that of Hokianga, which is said to run nearly thirty miles inland. It receives the river of the same name, and a number of smaller streams; and from all accounts it seems to be a valuable district for settlement. There is a bar at the entrance, with three fathoms water at low ebb; but the tide rises twelve feet, and inside the harbour deepens to seventeen fathoms. To the south of Hokianga occurs the harbour of Kaipara, which is thirty miles long, and receives the waters of three considerable streams. The entrance is obstructed by two sand-banks, but between these the passage is deep, and inside the harbour is safe and commodious.

In the southern island, within Cook's Straits, is the fine harbour of Queen Charlotte's Sound, which is nearly thirty miles long. Ship Cove, within this sound, is a very fine harbour, to which European vessels have long repaired, in consequence of its having been described by Captain Cook. The harbour is perfectly sheltered, and the soundings show ten fathoms a cable's length from the shore. At the north-western extremity of this island is Cloudy Bay, which runs fifteen miles inland, and is about four miles broad. This bay is thought the best station for the black whale fishery, and, in consequence, several Europeans have already settled on its shores. Besides these two harbours, there are many others in the island, such as Lookers-on Bay, visited by Captain Cook, Port Gore, Blind Bay, Admiralty Bay, and others which have not yet been properly surveyed.

CLIMATE.

From the position of New Zealand being north and south, it presents great variety of climate considering the size of the country. All accounts agree, however, in describing it as highly salubrious, and very congenial to European constitutions. Spring commences in the middle of August; summer in December; autumn in March; and winter in July. During winter the temperature ranges from 40° to 50° in some parts, and in others the average is higher. According to Captain Cook, while lying in Queen Charlotte's Sound, the thermometer never sunk below 48° in June, which corresponds to our December. "The trees at that time retained their verdure as if in the summer season; so that I believe their foliage is never shed till pushed by the succeeding leaves in spring." In summer the thermometer ranges from 64° to 80°, which is the highest number given. In Queen Charlotte's Sound Captain Cook says it did not rise higher than 66°, and in the Bay of Islands, in the northern island, a thermometer kept by one of the missionaries "never rose higher than 73° or 74°, nor went below 64°." Mr Yate, in his Account of New Zealand, speaking of the climate, says—"Those who come here sickly are soon restored to health; the healthy become robust, and the robust fat. North of the Thames snows are unknown; and frosts are off the ground by nine o'clock in the morning. The country, during six months in the year, is subject to heavy gales from the east and north-east, which generally last for three days, and are accompanied with tremendous falls of rain. These gales usually commence in the east, and gradually haul round to the north-west, where they terminate in a violent gust almost approaching to a hurricane; the clouds then pass away, and the westerly wind blows again with some violence. In the winter season the moon rarely either changes or wanes without raising one of these tempestuous gales; and during the whole year the wind is sure to blow, though it may be only for a few hours, from the east, every full and change of the moon.

The spring and autumn are delightfully temperate, but subject to showers from the west-south-west. Indeed, however fine the summer may be, we are frequently visited by refreshing rains, which give a peculiar richness to the vegetation and fertility of the land. The prevailing winds are from the south-west and north-west, which, within this range, blow upwards of six months in the year; more frequently the wind is due west. During five months sea-breezes set in from either coast, and meet each other half way across the island.

Colonel Wakefield compares the climate to that of the north of Portugal; and another writer, Mr Ward, to "that of the land lying between the south of Portugal and the north of France—pervading but without exceeding the most favoured part of the temperate region; and numerous witnesses, of ample experience, concur in describing the extremes of cold in winter and heat in summer, as being within peculiarly narrow limits; which is to describe the climate as one of the most equable in the world." Mr Watkins, in his examination before the Committee of the House of Lords, on being asked if the vicissitudes appeared great as compared with European climates, said—"Not anything like our climate. The frost was there at one time a very gentle frost indeed—the ice was not entirely over a small pool of water: they told me that they saw ice sometimes in the bay the thickness of a shilling, but I did not see any near that thickness. I have slept out frequently in the bush. The fern grows in great abundance. I found myself very comfortable and warm in my greatcoat and a bed of fern, rather than sleeping in the houses, which are very unfit for English people."

The climate of New Zealand has one great advantage over that of Australia, in not being subject to the severe droughts which so often destroy the hopes of the farmer in that country. Its insular position, and the lofty mountains which intersect the country, ensure it a constant supply of rain. This circumstance gives it a decided superiority over Australia in an agricultural point of view, rendering it more suitable for the growth of grain; though we are not aware of its being greatly superior to Van Diemen's Land.

It does not appear that there are any diseases peculiar to the climate of New Zealand: all accounts agree in describing the inhabitants as a robust and healthy looking people. Captain Cook says he never saw a single person among them who appeared to have any bodily complaint; and their wounds healed with astonishing rapidity. "A further proof that human nature is here untainted with disease, is the great number of old men we saw; many of whom, by the loss of their hair and teeth, appeared to be very ancient, yet none of them were decrepid; and though not equal to the young in muscular strength, were not a whit behind them in cheerfulness and vivacity." From their intercourse with Europeans, however, many diseases have spread amongst the native inhabitants; the consequence of which is, that in some parts their numbers appear to be on the decline.

SOIL AND PRODUCTIONS.—NATIVES.

The soil of New Zealand appears in almost every part to be excellent, well adapted for cultivating all sorts of grain, and indeed most European vegetables. Around the mountains the soil is volcanic, composed of pumice-stone, somewhat resembling that of some parts of Italy. In other parts, it appears to be a fine stiff loam and vegetable mould, very productive. Captain Cook, describing the valleys, says—"The soil in these valleys and in the plains, of which there are many that are not overgrown with wood, is in general light but fertile; and in the opinion of Mr Banks and Dr Solander, as well as of every other gentleman on board, every kind of European grain, plant, and fruit, would flourish here in the utmost luxuriance. From the vegetables that we found here, there is reason to conclude that the winters are milder than those in England; and we found the summer not hotter, though it was more equally warm; so that if this country should be settled by people from Europe, they would, with a little industry, be very soon supplied, not only with the necessaries but the luxuries of life, in great abundance."

The natives cultivate the potato in considerable quantities, which yields them a good crop without much

l appearance, and is one of the chief ornaments of
woods, but does not appear to be applied to any
ful purpose. Besides these, there are many other
s in New Zealand, especially the pines, which are
l to afford very superior timber for ship and house
ding, and also furniture-making.

The flax is another important vegetable production
New Zealand, and which is likely to form an article
considerable export. It is said to resemble the gar-
is in appearance, having a green thick leaf from
to ten feet long, and growing in the greatest luxu-
nce throughout the country. The fibres of the leaf
this plant are used for making ropes, and many com-
ent judges state that it is better adapted for this
rpose than the European flax. From having been
properly prepared at first, a prejudice exists against
New Zealand flax. Mr M'Donnell says regarding
—" All the standing and part of the running rigging
the Sir George Murray, a ship of 400 tons, belonging
myself, was laid up from New Zealand flax: it had
n over the mast-heads for nearly three years. I
state that better rope never crossed a ship's mast-
d. I have experienced some very heavy gales in
Sir George Murray, consequently the rigging had
n well tried; when lifted and examined it was found
cept where slightly chafed) as good as when first
t over; the running rigging were uncommonly well.
r spars, one and all, were of New Zealand pine—they
re faultless. Cordage and fishing lines made from
d New Zealand flax, have been proved to be far more
rable than any made from European hemp."

The vegetables of Europe have been found to flourish
New Zealand; seeds which were sown by Captain
ok are said to have propagated themselves over a
siderable part of the country. "Large quantities
Indian corn are now raised," says Mr Ward, "and
re is no lack of cabbages, greens, turnips, a parti-
larly fine species of the yam, with other esculent roots.
aches are plentiful in the season at Hokianga; figs,
pes, oranges, melons, and the Cape gooseberry, thrive
ommonly well. There are several species of the
ive fruits very pleasant and grateful to the taste.
awberries and raspberries grow in abundance." A
cies of spinach is indigenous to the country, also a
ruce-tree from which Captain Cook made beer; and
ea-tree which is said to be a good substitute for that
China.

Mr Ward sums up his account of the vegetable pro-
ctions of the country in the following words:—"New
aland is fitted by nature for the production in abun-
nce of those three articles which have always been
garded as the especial signs of the plenty, wealth,
d luxury of a country—corn, wine, and oil. Its
tile plains adapt it to the easy cultivation of grain,
the surplus production of which it will possess a
dy market, from its vicinity to New South Wales and
n Diemen's Land, where, from the high profits of
ol-growing, grain from foreign countries will always
d a ready demand. And the New Zealand harvests
y be safely anticipated to be free from the influence
those destructive droughts which must ever be
inous to the prospects of agriculture in Australia.
e vine has been already found to thrive luxuriantly
the islands, and the possibility of its successful cul-
ation, both for home consumption and commerce,
mits of no doubt. We have previously cited the proof
a strong resemblance to the volcanic soil of Italy in
northern island; and there is good reason to believe
t the wines not only of Italy, but of Spain, Portugal,
d the south of France, might be brought to as great
rfection as in those countries."

The very circumstance of New Zealand being suited
the cultivation of grain, renders it unfit for ever
coming an extensive grazing country, at least for the
owth of the fine wools of Australia. The following
marks from the Sydney Herald newspaper, were
itten by a person who had visited New Zealand on
ren different occasions:—"New Zealand is fitted by
ture to become the garden of New South Wales: the

fertility of the soil, the excellence of the climate, and, above all, the regularity of the seasons, eminently combine to fit it for an agricultural country. But it is only as an agricultural settlement that New Zealand can flourish; as a pastoral country it can never compete with New South Wales. The experiment has again and again been tried, and the result has invariably been the same. The climate is too moist for sheep pastures: and the fine wool for which New South Wales is so remarkable, speedily deteriorates in quality on the transportation of the sheep to New Zealand. The new colony, consequently, can never come into any hurtful competition with New South Wales; on the contrary, the settlement of the former must be highly conducive to the advancement of the latter."

Mr Ward gives the following suggestions for the conveyance of seeds and plants to these colonies, which may not be out of place here:—"The chief articles of produce to be first thought of are such as—1st, call for little labour; 2d, are not bulky for exportation; 3d, suitable for consumption in the colony; 4th, affording a quick return. Fruit-trees have the first requisite. If an emigrant takes out a few bushels of almonds (which we now import from Sicily) they will soon be bearing trees, and either the fruit or the oil is a good article of export. From a hundredweight of raisins of the sun (from the seeds of which a good vine has been known to be raised) he might sow several acres; it would be needful only to plant out the seedlings at the end of the year, and then let them stay till they had borne fruit enough to judge of; perhaps one in a hundred will be worth keeping, and the rest being rooted up, their places might be supplied with cuttings from the good sorts, and in a few years there would be a flourishing vineyard. Or from any of the wine countries, the marc might be procured in a dry state (it is for fuel they keep it), which contains all the grape stones. Of walnuts, the same may be said as of almonds. The kumera or sweet potato, which is well known in New Zealand, has been found in America to make beer exactly like malt; five bushels being equivalent to three. The olive, when once established, may be propagated quickly by cuttings, as also the fig. Plants to be transported by sea should be covered over with a glass hermetically sealed, and never uncovered till they arrive."

Little is known of the mineral productions of New Zealand, no geological survey of the islands having ever been made. Iron and coal are found in abundance, along with bitumen, freestone, marble, and sulphur. A blue pigment made use of by the natives is said to be manganese, and there is a valuable green stone found exclusively in the southern island. There is also abundance of clay fit for brick-making.

There are no native quadrupeds in New Zealand, those at present existing having been left by Captain Cook and other Europeans during their visits to the islands. Pigs are numerous, having spread very rapidly throughout the country. They are said to grow to an enormous size, and are highly valued by the natives. Dogs abound, especially about the Bay of Islands; and cats are also plentiful, and are eaten by the natives. The cattle which have been introduced by the missionaries are said to thrive well. Sheep have also been tried, and in some open parts succeeded; but New Zealand, as already stated, is more of an agricultural than a pastoral country. The only reptile yet seen in the islands is a small species of lizard.

Birds are very numerous, and are described by all travellers as beautiful songsters. Captain Cook says of them—"The ship lay at the distance of somewhat less than a quarter of a mile from the shore in Queen Charlotte's Sound, and in the morning we were awakened by the singing of the birds; the number was incredible, and they seemed to strain their throats in emulation of each other. This wild melody was infinitely superior to any that we had ever heard of the same kind; it seemed to be like small bells most exquisitely tuned; and perhaps the distance and the water between might be no small advantage to the sound. Upon inquiry we found that the birds here always began to sing two hours after midnight, and continuing their till sunrise, were, like our nightingales, silent t of the day."

Amongst the feathered tribe may be mentioned geese, woodcocks, snipes, curlews, and wood-pige affording food to man. These are very numero the wood-pigeons especially are highly valued delicacy of their flesh. They are much larger t pigeons of this country, and are extremely beau plumage—green, purple, and gold, being the pre colours. Some of the birds are very remarkable called by the natives the *tui*, has the power of ing the notes of all the other birds with great exa and may be taught to repeat sentences or imit sounds of quadrupeds. Another, called the about the size of a young turkey, and its plum sembles that of the Australian emu, being long, st and coarse. It has neither wings nor tail, but ru great swiftness along the ground, and can only be by dogs. The natives prize it highly, and mak ments of its skin.

Fish are very abundant all round the coast, a of most excellent quality. "We have," says Mr "a rich supply of salt-water fish; but nothing than eels in any of the fresh-water streams or l New Zealand. Those most plentiful and of g note are soles, mackerel, codfish, a species of s whiting, snapper, mullet, beam-skate, gurnards few smaller kinds, some not so large as a sprat an abundance of cray-fish, oysters, shrimps, p mussels, and cockles. An immensely large measuring from eleven to thirteen inches, is fo great abundance at Kaipara, a harbour on the w coast, and some few of this fish are picked up Bay of Islands. These inhabitants of the deep never-failing resource for the supply of native but fishing is not now much regarded, except mackerel season, when several tribes go together little creeks which these fish frequent, and alwa ceed in capturing some hundreds of thousands they return, the greater part of which they pr for winter stock. They always catch these fish darkest nights, when they are able to see the di the shoal takes from the phosphorescent appe which their motion causes upon the water. Th round them with their nets, which are several hu yards long, and drag them in vast numbers to the where the contents are regularly divided amo people to whom the net belonged."

Whales frequent the coasts of New Zealand purpose of calving, and are caught in large nu This trade alone is very considerable, and wo doubt be greatly extended were settlements mo merous in the country.

The aboriginal natives of New Zealand were fo savage and dangerous, but are now partially imp and harmless in disposition. From all account are susceptible of much greater improvement the natives of Australia, being ready in appreh and tractable. They generally dwell in small v In their intercourse with Europeans, the Ne landers have on all occasions manifested a de learn, and great aptitude in acquiring civilised cu They are very curious to know the use of every they see, not being content with a mere childish ration of it. They make excellent steersmen in and one, in particular, rose to be mate of a coloni sel. Although occasional instances of theft hav known amongst these people, yet upon the whole moral faculties seem to be of a high order.

The missionaries have acquired considerable in over the natives, and have in all cases exercise their benefit. At their suggestion, roads hav formed, bridges erected, and ships of several hu tons' burden built. Mr Darwin, the naturalist surveying expedition of the Beagle, gives a del picture of a farm establishment which he visited. of corn, potatoes, and clover, were seen growin

e had, besides what was afforded by a gentleman
ssessed an old commission as a justice of peace
w Zealand, derived from General Macquarrie,
or of New South Wales. The company, never-
, proceeded with their scheme, and the govern
ion after found it advisable to send out a lieu-
-governor of New Zealand.

whole procedure of the company, and of those
with it, forms a singular and striking example
confidence between parties which is only to be
ed in even its simplest forms amidst a commu-
nsiderably advanced in civilisation. Not only
ground of the first settlement *paid for* before
a cognisable existence, but, before its existence
t known in Britain, *nine ships, containing* 1125
nts, had been dispatched to it. There was first
ry, of 382 tons, which sailed on the 4th of May
with only six emigrants, but containing Colonel
field, the company's principal agent for the ar-
ment of settlements, and a great store of articles
ed to be employed in bartering for land with the
chiefs. Colonel Wakefield, it may be remarked,
stinguished himself in the Spanish service, and is
r of the author of the well-known plan of coloni-
followed on this occasion. On August 1st, fol-
the Cuba of 373 tons, with eight first-class emi-
and twenty-two labourers, and containing also
rveying staff, under Captain W. M. Smith of the
rtillery. In the middle of September, the Ori-
Aurora, and Adelaide, respectively of 506, 550,
40 tons, proceeded on the same voyage, with a
body of emigrants of both classes. All of these
rom London. On October 5th, the Duke of Rox-
e sailed from Plymouth with 167 settlers. Three
vessels, one of which was from Glasgow, and two
London, sailed before the end of the year. Besides
there were three ships containing stores, designed
rd against the possibility of any deficiency of neces-
being felt during the early days of the settlement.
voyage of the Tory was prosperous, and uncom-
quick. In ninety-six days from Plymouth, namely,
16th of August, she hove in sight of Cape Farewell,
rthern point of the southern island, and which
one side of the opening, named Cook's Straits,
en the two islands. She lost no time in standing
gh the straits, and on the 18th she anchored in
Cove, as nearly as possible in the same spot that
in Cook occupied in his three visits to the island.
l Wakefield, in his journal, describes the southern
as forbidding in its appearance at a distance—
cession of apparently barren mountains stretching
from the coast till they reach those covered with
n the interior." But, "on nearing the land, you
at the whole is covered to the very highest points
imber and brushwood, which not till then betray
perpetual verdure." Ship Cove, in the northern
, was a beautiful place. "The water, tranquil as
land lake, has ten fathoms' depth within a ship's
of the shore, which is covered to the water's
ith an evergreen forest, consisting of every variety
igenous tree and shrub, so thick as to be scarcely
rable, and presenting to the eye an undulating
of verdure reaching to the summit of the sur-
ing mountains, the highest of which is from 1200
0 feet. The birds, as in the time of the immortal
sh navigator, fill the air with their notes, the
ing of which he has aptly likened to the tinkling
all bells; and the sea teems with fish, of which we
t enough with hooks and lines for the whole ship,
we dropped anchor. These consisted of hauk,
ish, spotted dog-fish, gurnet, flounder, and joe-fish,
which are eatable."

onel Wakefield found no difficulty in communi-
with the native chiefs; but it was not so easy to
re lands, not owing to any disinclination of the
s to sell them at a moderate price, but because it
ifficult to ascertain who were the proper owners,
e owners who could convey a sound title. The
al feeling of the natives is in favour of British

settlements. They have tasted the benefits of civilisation sufficiently, to be very anxious for increased intercourse with the English, and for this reason they appeared to Colonel Wakefield as if they would have willingly allowed the soil to be appropriated to a large extent, without looking for any remuneration. But the company was anxious that a reasonable, and, considering the circumstances, a liberal price, should be given for lands; and the main difficulty, as just stated, was to discover the parties who were entitled to part with the soil. An immense quantity of land had already been appropriated by private persons or by the missionary societies, without much ceremony.

Colonel Wakefield sent home a journal brought down to the 2d of September, and not long after he dispatched another section of it, containing not less interesting intelligence. The second section of his journal commences on the 6th of September with a description of the trade carried on in Queen Charlotte's Sound and other bays connected with Cook's Straits. He describes whalers in the pay of Sydney capitalists as being the chief followers of this hazardous but profitable commerce. It is estimated that the whale-fishery produces 1200 tons of oil per annum, and that the number of British who compose "shore-parties" in Cook's Straits and the stations on Banks's Peninsula, are about 500. They are a lawless set of people, quarrelling with the natives and among themselves. There are, however, some respectable persons among them.

Learning that the church missionaries were endeavouring to frustrate their views respecting Port Nicholson, a fine harbour and country in the northern island, about the centre of Cook's Straits, Colonel Wakefield now made haste thither. He met with a very hearty reception from the chiefs. "Epuri, an old chief, eagerly inquired the motives of our visit, and betrayed the most lively satisfaction at being informed that we wished to buy the place, and bring white men to it. He was followed by Warepori, his nephew, who is about thirty-five years old, and has for some years superseded the older chiefs in influence, by his prowess in war, and skill in the rude arts cultivated by these people." Colonel Wakefield ascended the principal river which falls into the bay, and was well satisfied with the capabilities of the district. The soil is a rich black loam; the timber excellent in quality and of various descriptions; and the navigation of the river, which was obstructed by heaps of stones and trees thrown across, susceptible of great improvement at slight expense.

Colonel Wakefield determined to fix upon this part of the island for the first and principal settlement of the company; and he lost no time in coming to terms with the natives. He thus describes his purchase:—

"I found a territory of forty or fifty miles in length by twenty-five or thirty in breadth, containing a noble harbour, accessible at all times, and in the very highway between New Holland and the Western world, and land exceeding in fertility any I have seen in these islands, and equalling that of an English garden. I found a race of people of warlike habits, and but little used to intercourse with Europeans, just emerging from their barbarism, and inclined to cultivate the arts and intimacy of Great Britain; appreciating the protection from their hostile and still savage enemies that British settlers would afford, and anxiously desiring to assist them in their first labours in a new country. Under these circumstances, and following out the spirit of my instructions, I determined to act in the most liberal manner in the transaction. Moreover, I was most anxious to distinguish this bargain from all others that have been made in New Zealand, that none of the haggling and petty trading which usually take place between Europeans and the natives of this country should enter into any operations between the latter and the company's agents; and that the value of this property should not be regulated by what has hitherto been considered the standard of exchange in similar transactions."

The amount paid, of course, is not published; but the natives were highly pleased with their bar
eager to sell more of their land. The chiefs
examined the articles given in barter, and th
a formal deed, alienating the land for ever.
dance, the hoisting of the New Zealand flag
formal ceremony of taking possession of the
are vividly described. Colonel Wakefield lef
in charge of his newly-acquired territory.

This important business being settled, the
ceeded along the coast of the northern islan
the north, and on the 16th October came to
off Kapiti, near Evans's Island. A smart
just then taken place between the two chief
those parts, the Ngatirocowas, and Ngatiawa
ter of whom, a comparatively civilised and pa
had acted on the defensive, and been victorio
nel Wakefield had some intercourse with R
corrupt chief of the Kafia tribe, who had
instigated the Ngatirocowas, and with Hiho, a
young chief of the Ngatiawas; and after some
tions, and one somewhat wild scene, purchase
tensive tracts of land on both sides of Cook
forming "the commanding portions of the two
The goods given in exchange were upon the s
ral scale as in the case of Port Nicholson,
mately all the natives expressed themselves
satisfied. With regard to some portions of th
purchased, it was known that there were oth
now dispossessed, who had claims upon them;
these parties Colonel Wakefield apprehended
of any consequence. In all cases he took car
deeds of cession formally executed on the spo
caution the more necessary, as already specula
sending emissaries from Sydney to buy up lan
Zealand, on a supposition of its soon acquirin
ketable value. For the next two or three wee
nel Wakefield employed himself in sailing to
points in Cook's Straits, in order to buy up t
of as many parties as possible. In concludin
vey of both sides of these straits, he gives a ta
native population of the principal districts,
estimates as amounting in all to 6650.

Colonel Wakefield now proceeded to Hol
deep inlet near the farther extremity of the
island, leaving Mr Barrett, a whaling mer
arrange with the natives for the purchase of
more immediately to the north of Cook's Str
reached Hokianga on the 2d December, an
into negotiations for the purchase of lands the
the Bay of Islands, on the opposite or east si
country. The natives are not here so fine
physically or morally, as in the south, and not
to cede their lands. Colonel Wakefield obta
session of a tract at Herd's Point, being the
chased by Captain Herd, in 1826, for the old
—reserved by the natives since that time—
scrupulously made over to their successors.
be left Hokianga on the 13th December for
another important inlet, a little farther to t
At this point, he completed his third dispatch

According to subsequent dispatches, the To
upon a (supposed) newly-formed sand-bank
into Kaipara bay or harbour, and, though
twenty-four hours, sustained such damage tha
Wakefield judged it prudent to leave her fo
and proceed with his land-buying operations.
therefore secured all important papers, he walk
the continent to the Bay of Islands, and there
a small brig to go to Kaipara, to take char
cargo and passengers. He likewise engaged
small vessel to take him to Port Hardy in D
Island (Cook's Straits), the place of rendezvo
emigrant ships. He reached Port Hardy on
January; but finding none of the emigran
arrived, he judged it best to cross the strait
Nicholson, which he did in a whale boat, le
Englishman to direct these vessels to follow hi
Port Nicholson was the place of all others
thought suitable for the first settlement, an

ious to prepare matters as far as possible for
al of the settlers. These now began to arrive
iccessive vessels, of which all that had been
ed in 1839 arrived before March 7, 1840.
vhile the government had deemed it necessary
some step regarding the colonisation of New

In August 1839, it dispatched Captain Hob-
., as Lieutenant-Governor of New Zealand. He
it the Bay of Islands on the 30th of January,
hat day issued a proclamation, intimating that
n did not deem it expedient for the interests
her British subjects resorting to New Zealand,
ose of the native tribes, to recognise as valid
i to land not derived from or confirmed by her
; but yet, "to dispel any apprehension that it
gned to dispossess the owners of land acquired
able conditions, and not in extent or otherwise
ial to the present or prospective interests of the
ity," declaring "that her Majesty had been
o direct that a commission should be appointed,
tain powers to be derived from a Governor and
ve Council of New South Wales, to inquire into
eport on all claims to such lands;" and further
ig that "purchases of land in any part of New
which may be made from any of the chiefs or
ibes after the date of these presents [January
], will be considered as null and void, and will
onfirmed, or in any way recognised, by her
"

ms of this proclamation, it will be necessary
vho have purchased land in New Zealand to
eir rights before the commission. Captain
left the Bay of Islands on the 17th February,
; it an unfit place to be the seat of government
Zealand, being distant from the more fertile
the country, and cut off from all easy commu-
with the southward. He had previously had
ıferences with the native chiefs relative to the
ons of land by the missionaries. A paralytic
ought his measures to an abrupt conclusion,
owever, was only temporary, as he soon so far
d as to resume his functions.

companies besides that represented by Colonel
d have in the mean time been taking steps for
ig the colonisation of New Zealand. One of
e *Plymouth Company of New Zealand*, adver-
the 18th July that it had secured an extensive
of land, and had sent out orders for the selec-
settlement. A thousand sections of town and
ıd were in the way of being engaged, on the
nding that, out of the L.70 of purchase-money
section, L.40 was to be expended in carrying
rrers. The *New Zealand Manakou and Waite-
wpany* acquired valuable tracts on those har-
ı the northern island) in 1838, and sent out a
oung officer, Captain W. C. Symonds, H.M.S.,
y the same and report, before taking any fur-
. A report from Captain Symonds, dated in
y 1840, and of a highly favourable nature, was
in July, and the company then proceeded to
ıpplications for 200 sections, of 1 town acre
country acres each, at L.101 each, 65 per cent.
urchase-money to be expended in taking out
s. In July 1840, the *Paisley New Zealand
ion Society* was formed in connexion with the
Company, for the purpose of promoting an
e emigration of hand-loom weavers from the
Scotland to New Zealand.

these proceedings were going on on the part
ritish, a French expedition sailed for the same
designing to appropriate land for a settlement,
ly to all appearance with a view to the whale-

Disputes between France and England re-
the sovereignty of New Zealand, have been
d; but we have no fear that any thing of the
an extent at all troublesome, will take place.
llowing has been issued by the colonial secre-
pecting the plan of government to be adopted
Zealand:—

The colony is to be entirely separate from and independent of New South Wales. A local legislature, to be composed for the present of the chief officers of the local government, and some of the chief inhabitants, is to be constituted, to make laws for the peace, order, and good government of the colony.

With respect to all lands acquired in the colony under any other than that of grants made in the name and on behalf of her Majesty, it is proposed that the titles of the claimants should be subjected to the investigation of a commission to be constituted for the purpose. The basis of that inquiry will be the assertion on the part of the crown of a title to all lands situate in New Zealand, which have heretofore been granted by the chiefs of those islands according to the customs of the country, and in return for some adequate consideration.

An account of all the just and moderate expenses of the company hitherto incurred in forwarding the colonisation of New Zealand to be made out, and the crown to grant the company as many acres of land as shall be equal to four times the number of pounds sterling which they shall be found to have expended in the manner stated. The lands to be taken by the company in the neighbourhood of their respective settlements at Port Nicholson and New Plymouth.

The company to forego all claim to any lands purchased or acquired by them in New Zealand, other than the lands so to be granted to them, and other than any lands which they may hereafter acquire from the crown, or other persons deriving their title from the crown.

It is proposed to apply to all other British subjects the rule to which the New Zealand Company will be subject in respect of the lands claimed by them within the colony. This advantage, however, will be offered only to those whose lands were acquired before the 5th day of January 1840, the date of proclamation issued by Sir George Gipps on the subject.

The governor of New Zealand will be instructed to recommend to the local legislature the enactment of a law to incorporate, as a municipal body, settlers who have, at the charge of the company, resorted to Port Nicholson, and settled themselves there or in that vicinity. For the present, her majesty's government engage that all sums of money which shall be paid by the company for the purchase of land in New Zealand, shall, whenever such money shall be paid in this country, be laid out in the removal of emigrants to New Zealand, it being left to the company, from time to time, to determine whether such money shall be so laid out by the Commissioners of Colonial Lands and Emigration or by the company themselves, under the superintendence and with the concurrence and sanction of those commissioners. The native reserves made by the company to be sanctioned by the crown.

A charter to be granted for forty years, but to contain provisions enabling the crown to resume the charter and purchase the lands and other property of the company on just and equitable terms, in case the public interest should require such resumption and purchase.

A township has been marked out on the shores of Port Nicholson, and named Wellington, which it is thought will be the capital of the colony. It is also proposed to build a town at the harbour of Hokianga, to be called Churchill; another at the Bay of Islands, to be called Russell; and a fourth at the Frith of Thames, to be called Auckland.

Up till the period we write (April 1841), so little information of a substantial nature has been made known respecting the settlement of New Zealand, that we are unable to say distinctly how the colony is advancing, though, from floating intelligence, there is the greatest prospect of success; ships with emigrants, both capitalists and labourers, and also large stocks of provision and merchandise, are regularly sailing, and the country must soon present the spectacle of general industry and comfort.

SUBJECT OF EMIGRATION CONCLUDED.

In the present and preceding three sheets, we have presented, to the best of our ability, a practical view of the subject of emigration to Canada and other British American possessions, to the United States of America, to the different colonies on the mainland of Australia, and to Van Diemen's Land and New Zealand. These do not comprehend all the fields for emigration, but they are the principal, and those which seem most commonly available. The places of which we have not formally treated, are the Cape of Good Hope, the British West Indies, and Ceylon, all of which are crown colonies, and open to settlers. Ceylon, being situated within a few degrees of the line, and altogether tropical in character, is not to be mentioned as suitable for British emigrants; and the same thing may almost be said of the West Indies. The Cape of Good Hope, consisting of a large portion of South Africa, from all we can understand, is now in a thriving condition, and to many it forms a tempting field of settlement. The climate is agreeable, the government is settled and liberal in character, and there are large tracts of land open to settlers on easy terms. Farms abandoned by Dutch proprietors who have emigrated to more remote districts, can always be obtained at a cheap price; and as respects pastoral qualities, the territory is equal, if not superior, to many portions of Australia. As, however, we have no official papers on the subject before us, we pass to a general consideration of those fields of emigration which have been separately described.

The readers of these sheets will have observed, that each country or district referred to possesses a certain peculiarity of character, or, as we may say, has good and bad points in a greater or lesser ratio, which it will behove the intending emigrant to consider.

Canada possesses a most fertile soil, but it has very indifferent roads, is slow in improving, and labours under the drawback of a long and extremely cold winter. It seems best adapted for small capitalists who wish to pursue agricultural pursuits, or field labourers and artisans of a common kind. It has also the great advantage of being speedily and cheaply reached; yet, to a person with a few pounds to spare, such an advantage should go for nothing. In taking the step of emigration, it is of importance that it should be done well, and once for all.

The United States offer a far more agreeable scene for agricultural labour, because, while the soil is equally fertile with that of Canada, the winters are shorter. Some of the fine prairie-lands of the western states possess attractions which cannot be surpassed. As it is easy to reach these districts from Canada, many spirited emigrants will push on thither if they find such a step advisable. The United States possess a prodigious superiority over Canada in one particular—the sale of lands. In Canada, the abominable plan of selling lands by auction to the highest bidder, at periodic intervals, still continues, and, by disheartening emigrants and wearing out their means, sends shoals onwards to the States, where the land pitched upon has its exact price, and a purchase can be at once effected. If emigrants to Canada, therefore, cannot buy half-cleared lots on the instant, which perhaps they will find no difficulty in doing, we recommend them to proceed immediately into Michigan, Illinois, or some other western state of the Union. They will find so many persons on the road, that the exact route need not here be defined. Were the British government to institute a plan of colonising Canada, on a great scale, with an humble order of settlers, and at the same time permit the free importation of corn from that part of the empire, we might expect to find the country in a state of rapid progression in a very short period of time; but neither of these arrangements is at present likely to be carried into effect. It is proper to mention, that although the United States possess that degree of civil and religious liberty, which leaves nothing to be wished for on that score, the country labours under a universal derangement in money matters, and we fear that the se lay his account with a clumsy and unprofitable barter in relation to most products of his ind

Australia is much better adapted for the e of capitalists than any part of America. hear of any one making a fortune in either the United States, but many in New South V would almost appear that, whatever be th money a man expends on land in America, rises above the condition of a drudge—a cir arising from two causes, lack of cheap labour of outlet for produce. Provided a course o and sobriety be pursued, he will unquestiona a state of competency and tranquillity, and w family rising around him with the prospects able settlement; but we fear that, unless s change take place in Canadian affairs, he slender chance of ever getting above the con small farmer; consequently there is no tem persons of comparative wealth to encounter and annoying difficulties of settlement in country. In Australia, the emigrant will rience personal discomfort and deterioration But a time comes when he can sit down wit of ease, calmly reposing on the advantage earned—he can reasonably look forward to i in refinements such as wealth purchases in and with this pleasing hope, any species of toil is of trifling consideration. Besides, to son who loves a fine climate, where on ea a more delightful country be found than Cold seldom or never sinks to that pitch w duces snow, and the heat, also, is by no m treme. As respects climate and natural we should consider some parts of New Sou equal to Asia-Minor and adjacent countries; British subjects are at liberty to proceed t agreeable field of industry, and there possess a vileges which our laws and constitution best held to be a boon of which we cannot be too There is one material drawback to Australia— of regular and frequent rains. This leads oc to extreme droughts, which parch the groun many parts render the business of the agr very precarious. On that account Australia fitted for pasturage than agriculture. Van Land, and also New Zealand, on the other ha to be more agricultural than pastoral. Grain two grand staples in human affairs, will m become the permanent products of these ferti In point of national economy, it is of no co what a country produces, provided it produce s which can be sold in the general market of t Let the mainland of Australia, therefore, a sperity by its wool, and perhaps its wines and t and let Van Diemen's Land and New Zealan wealth from their grain, flax, timber, and perh whale fisheries. In both New South Wales Diemen's Land, the sales of land are by auct Canada—an evil of serious consequence, from Port Philip district and South Australia are fo exempt.

It is gratifying to reflect, that every year s in any of the colonies is becoming less precar promises a higher measure of success. Th have gone before, instead of absorbing all tha are only preparers of the way for others. not the least chance of any one going too late, he will. There is ample room for all. The m go, indeed, the greater is the likelihood of prosperity. The fundamental evil, a lack of l is daily lessening by the free and purchased pa the young and industrious classes, and in prop this stream of emigration is sustained, so ma pect the various fields of emigration to be mor for the resort of capital and intelligent enterp

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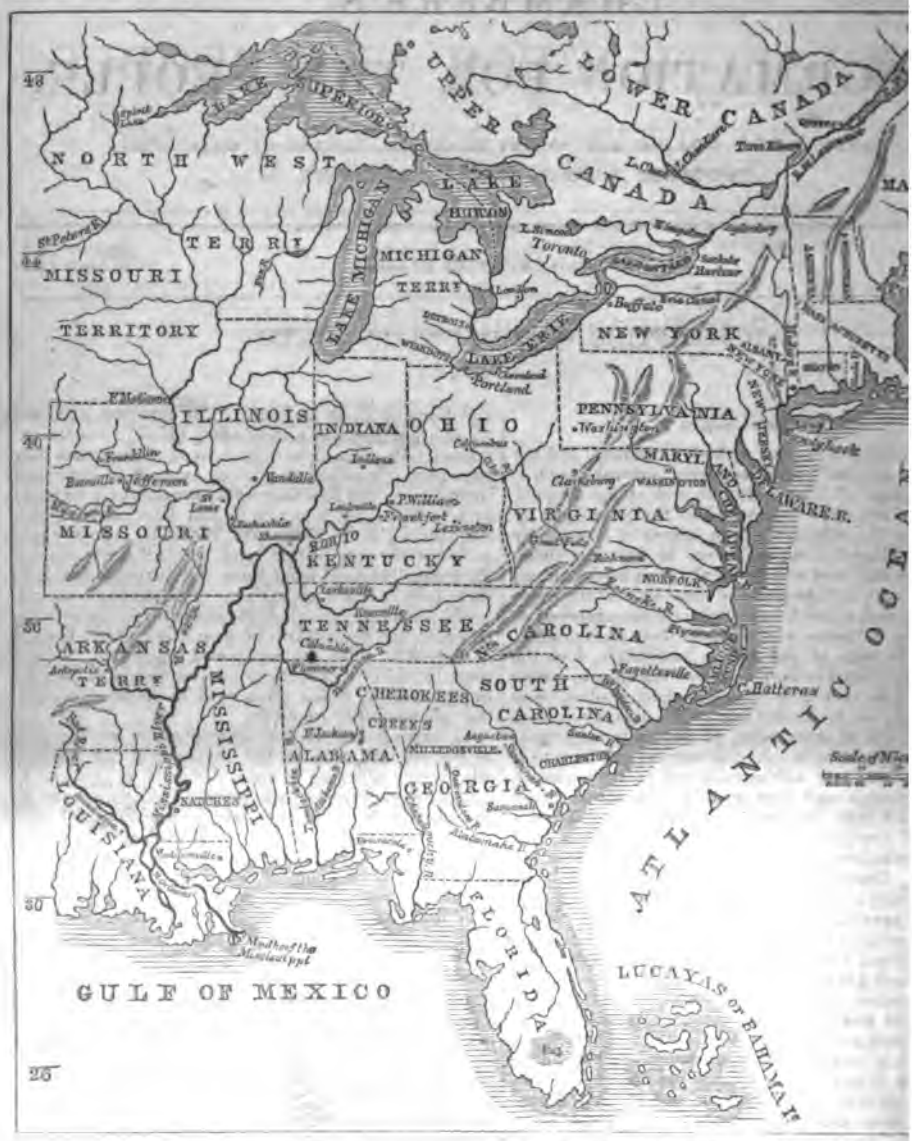
UNITED STATES.

hung on their frontiers. The first tax proposed this purpose was a stamp-duty (1765); but the co- es firmly refused to submit to it, saying that they e perfectly willing to pay the expense of their own ernments, but that they would not endure to be taxed a foreign body like the British Parliament, which situated at the distance of 3000 miles, and in whose berations they had no voice, while it might employ money obtained from them for purposes hostile to r own freedom or welfare. This feeling was uni- al among the people of the colonies; for these being erally the descendants of men who had left Europe disgust at some real or fancied oppression, had not e habits of deference to the commands of persons igh station, which often tend to secure obedience quiet in other countries.

n consequence of this determination on the part he colonies, and of the obstinacy of the English istry in adhering to their demands, a great many tating occurrences took place. The Americans re- d to import or to use British manufactures; riots place in almost all the towns, but chiefly in Bos- ; and the taxed articles which were sent out were troyed. A meeting of delegates from the several nies or districts was held in 1765, to petition and onstrate against what they considered an injustice, l the British government persevered. And though re was at one time an apparent disposition to recede n some of the propositions which had caused most tation, the right of taxing the colonies was vigorously ntained. New taxes were soon after imposed (1767) ea, glass, and paints. The pertinacity of both par- led to frequent violence, and at length to actual onstrations of war on the part of the Americans. s war lasted for about seven years, from 1775 to 2, and concluded at last, as might have been anti- ted, by the British being compelled to relinquish a ntry of which every inhabitant was their enemy. war was conducted on the part of the Americans General George Washington, to whose talents and severance its speedy termination was greatly owing, whose moderation in using the influence which cess had given him over his countrymen, has been seldom imitated by conquerors. The councils of Americans, and their negotiations with other powers, e mainly directed during these transactions by Ben- in Franklin, a man who was equally distinguished a philosopher and a lover of his country.

t the conclusion of peace between Great Britain America, the following thirteen states formed the ublic of the United States:—New Hampshire, sachusetts, Rhode Island, Connecticut, New York, Jersey, Pennsylvania, Delaware, Maryland, Vir- a, North Carolina, South Carolina, and Georgia. these have been added, from time to time, Maine, rmont, Columbia, Alabama, Louisiana (purchased u the French in 1803), Ohio, Michigan, Indiana,

Illinois, Missouri, Kentucky, Tenessee, and Mississippi. Besides these, may be mentioned the territories of Florida, Wisconsin, and Iowa, which are go officers appointed by the American governm



FORM OF GOVERNMENT.

Each of the English colonies, as they settled in America, had had a certain form of government assigned it for maintaining the necessary order. This consisted generally of a house of assembly, chosen by the people, with governor, judges, and other officers, appointed by the king, but paid out of taxes levied by the representatives. On acquiring independence after their war with the mother country, the different colonies, now called *states*, made such alterations, each in its own constitution, as they believed to be suited to their circumstances; and a general government, framed and appointed by the consent of the whole, was formed to take charge of such national affairs as the states could not manage separately. The states have each a senate and house of representatives; the members of the former are fewer in number than those of the latter, *and a part of them* only is chosen at each election, so *that they remain in office* for several years, generally *four: the house* of representatives is elected anew every year. The resolutions agreed to by bodies for the government of the state, are submitted to a president or governor, whos constitutes them part of the law. Both sen representatives are paid for their attendan public business, generally at the rate of two nine shillings sterling) per day, besides an for travelling expenses. The right of electi in the people under certain limitations: in s the possession of a certain property (about quired in the electors: in others, the regular of certain taxes: in all, a residence in the s ing from two years to six months, is requi there are only eight of the states in which bl are allowed to give votes. The judges and oth trates are in some states elected by the people; by the governor, subject to the approval o houses: and their tenure of office is in some of years; in others, during good behaviour; veral, till the holder attain a certain age (abo

ition of the people, to be passed over in silence. rally speaking, it may be said that popular opinion absolute governing power in the States, and can- be withstood by any species of opposition. Popu- pinion, whether right or wrong, enforces uniformity ternal behaviour and profession of belief, to a de- which would be called despotic if exercised in a archical country. On this account, the mainte- e of opinions with respect to politics and religion actically less free in America than in England, e, if a man pay all demands upon him, and commit vert act of sedition or other gross impropriety, he professes what opinions he pleases, and live any way suits his fancy.

he expense at which the entire government of the s is conducted, including the military and naval rtments, is on a singularly economical scale. The ident receives of annual salary £5625, the vice- ident £1125, and the secretary of state the same. of seven ambassadors is paid £2925. In 1837, general expenses were summed up as follow :—

	dollars.
ist, foreign intercourse, and miscellaneous, -	3,241,288
ary service, including fortifications, Indian ties, militia, improvements of harbours and rs; constructing roads and building mee- s, &c., - - - - - - -	11,417,774
l service, including expeditions, &c., - - -	6,622,020
st debt, - - - - - - - -	8,309
expenses of general government, - - -	31,315,407

he annual charge of the public debt is to be deducted the above sum, as the whole has now been very ly discharged. But in estimating the whole cost he government, it is necessary also to take into unt the sums required for the expenses of the diffe- states. We do not find any direct notice of the unt of these ; but as Captain Hall states that each on pays to the state government 3s., and to the ral government about 9s. 4½d. per annum, this portion would make the amount of expenses of the rent states about £2,087,029 ; and the whole cost overnment is therefore £7,722,009, amounting, rding to Captain Hall's estimate, to about 12s. 4½d. ach person. The national debt having been now ly paid off, the yearly sum paid in taxes, by each on, may be estimated at 8s. The only taxes are s on articles imported from foreign places, none ever being levied on the manufactures or produce he country itself ; and there are no direct taxes, the house or window taxes in this country. Part he revenue is derived from the sale of public lands ; this amounted in 1828 to £290,821.

ARMY AND NAVY.

he regular army of the United States amounts to ards of twelve thousand men : it consists of 735 missioned officers, and 11,804 non-commissioned ers and privates ; in all, 12,539 men. The militia timated at 1,350,895 men. In this body the men ire a certain knowledge of military exercises, but nit very little to subordination.

here is a military academy for educating young as officers ; the number under tuition is limited to ; and the instruction given is well fitted for train- their minds to knowledge and gentlemanly feelings : course consists of natural and experimental philo- y, mathematics, engineering, ethics, drawing, and usual military exercises. The young men educated are received into the army as cadets, and their notion is afterwards regulated strictly by seniority, ept in extraordinary cases.

he navy consists of 8 ships of the line, and 3 rs building ; 10 frigates of 44 guns, 2 of 36 guns, 5 building ; 29 sloops of war and smaller vessels, 1 armed steam-ship. The number of captains is 55 ; manders 54 ; and lieutenants 285. There are seven y-yards, of which the principal are on Long Island, r New York, at Philadelphia, and at Washington. ent events may have caused an alteration in this mary of the military and naval force.

Notwithstanding the free genius of the American constitution, and the little attention paid to wealth or difference of rank in common life, discipline is enforced with great strictness in the naval service, and with the more jealousy, perhaps, because there is always a danger of the seamen and inferior officers falling into the independent habits of their countrymen, which would be inconsistent with the authority of a commander at sea. Captain Hall tells a story of a young officer who announced his intention of appealing to the people on having been reprimanded by his captain. This being reported at head-quarters, an order came down to say, that the officer was perfectly at liberty to appeal as he proposed; and in order that he might do so without inconvenience, his discharge from the navy was enclosed. Great care is taken in the selection of persons wishing to enter the naval service; and these gentlemen are also exposed, afterwards, to frequent and rigorous examinations, by which means incompetent persons are excluded.

The ships of the American navy are generally well built, and good sailers: they are constructed in great part of a wood called the *live oak*, or *evergreen oak*, which grows in the salt marshes of Florida, and which is almost incorruptible. Large plantations of this valuable tree are formed, and carefully attended to by the government, the only instance in which forest trees are at all cared for in America.

MANUFACTURES.

The vast extent of culturable and prolific land in the United States, and the constant demand for large supplies for food, forms a reason why the nation should resort more to agriculture than manufacturing industry as a staple employment. The Americans, nevertheless, from a strong desire to be independent of foreign countries for a supply of articles of clothing, have thrown themselves energetically into a course of manufacturing, in relation both to soft and hard goods. Doubtless, they could be supplied with the articles cheaper from England than they could make them; but this seems a matter of indifference, and as the English think fit to exclude American grain from their market, the Americans in return exclude English goods. At present, they are engaged in a kind of rivalry with Britain, and it is certain that they are fast overtaking it, both in the excellence and cheapness of their products.

The manufactures which are followed with most advantage in America, and without fear of English rivalry, are those which produce articles too bulky or too heavy, in proportion to their value, to bear the expense of a long carriage, or of which the materials are found in the country, and can be wrought up there at less expense than by carrying them to cheaper tradesmen at a distance. Some of these branches may be mentioned—such as the making of soap, candles, and hats; tanning and working in leather, particularly bulky articles; building of carriages; making of all kinds of agricultural implements; carpentry, sawing, and turning of most descriptions; building of ships and steam-boats; constructing and putting up of mill-work and machinery; distilling; the employments of goldsmiths, tinsmiths, and printers. There are several businesses, however, whose prospects depend chiefly on prohibiting the cheaper manufactures of England, and which of course are liable to be deranged by any alteration in the tariff laws: these are the making of glass and earthenware; spinning and weaving most kinds of cotton goods; making of woollens, carpets, &c.; most of the finer kinds of hardware, iron, steel, and brass; hempen goods and silk goods.

Within the last few years the manufacture of cotton has been conducted on a great scale, by means of factories on the same plan as those in England. The cotton manufacture was introduced only in 1790, and in 1832 it was found that the number of mills in twelve states was 795, of spindles 1,246,503, of power looms 33,506; of males employed in the manufacture 18,539, females 38,927—total employed, 57,466. The amount of capital now invested in this thriving branch of tr mated at 45,000,000 dollars, equal to £9,375,0 being about a fourth part of the capital inv cotton manufacture in Great Britain. By the cotton cheaper than can be done in E Americans have an important advantage; ever, are higher. The principal cotton ma districts are in Massachusetts, Maine, and on the coast. The chief seat of the man Lowell, in Massachusetts, and it may be Manchester of America. Besides containi a dozen factories for cotton and woollen fab possesses large machine-making establishm employ many hundreds of workmen. All th ments in mechanism in England speedily way to this spot.

Household manufactures of woollen, linen, are made to a great extent. Many families s and make up their own clothing, sheeting, &c. They purchase cotton, and mix it up i with their linen and woollen stuffs; blank coverlids, stockings, mits, &c., are made ch family. These are perhaps neither so fine n expeditiously as those of regular tradesmen are produced for domestic use at times wh no other employment, and in this manner n to cost nothing except the material of whic made. It is supposed that nearly two-thi domestic clothing is so made in country pla families, as in Canada, having a loom in the is the same with soap, candles, and maple-s which are manufactured by the farmers at h articles made by families in the state of Ne their own use, were, in 1831, reckoned at in value. Attempts have recently been m great success, to introduce the manufacture mulberry-tree grows spontaneously in the mi and the light easy labour which the collecti silk requires, would afford employment to and females, enabling them to add to the their families, when they could not otherwi to do any thing.

The native American manufactures, limit are in some respects, are sufficient to give em to every one who wishes to work; and ther continual call for new hands. Capital also f dant remuneration in the existing state of that there seems to be no necessity for the troubling themselves to establish new ma all their spare hands and spare money bei occupied to advantage. English workmen skilful and steady, are almost certain of findi ment with good wages, in one or other of the turing towns; but it is here necessary to stat American manufacturers make serious against operatives from British factories, w describe as arrogant, intemperate, and un habits. The chief ground of complaint is th perance, a circumstance partly arising from t ness and abundance of intoxicating liquors, bu a want of due personal control. We mentio warning; for no intemperately disposed work think of leaving their employment in Brita an asylum in American factories.

In the southern states there is little manuf the inhabitants there depend on the north or on foreign countries for their supplies, exports are cotton, sugar, and other raw mat

COMMERCE.

The wealthiest class in the United States rally the merchants of large sea-port towns. C may be considered as forming the aristocra country, and is regarded every where as highl able. Young people are educated for it with care as for the army, or for any of the lea fessions; and they acquire a knowledge of the of the foreign countries with which they pro connected, their modes of transacting busi

exports. This excess of the imports over the has continued since the year 1831, but the e is now considerably less than it was at that t appears that these sums form about half the of the British foreign trade. The American however, is nearly equal in tonnage to that of This apparent inconsistency is accounted for ays: first, a great deal of the trade to Britain d on in American bottoms, and not equally in the two countries; and, secondly, there is a antity of tonnage employed by the Americans asting or internal trade of the country than in Britain. It is, in fact, the traffic between rent parts of the Union, which gives its chief to American commerce.

mmense number of navigable rivers which run the country in every direction, and discharge es into the ocean or the lakes, afford the means at internal trade. These facilities have been d at many important points by canals, con- the different rivers at points where they ap- ach other, or where they flow away in opposite s from sources lying in the same neighbourhood. the southern and eastern states there is a con- erchange of commodities along the coast, and trade goes on from the western states to the the Ohio and its branches, down the Missis- New Orleans is the great entrepôt for the goods tter branch of internal commerce. The north- states furnish rum, molasses, cordials, dried ropean goods of all descriptions, and articles of ne, quaintly styled *notions*; and they take in orn, grain, cotton, and tobacco, from the south; om the western states are received hams, beef, r, &c., either for use or for exportation to the dies and the other parts of Southern America. the extent to which this traffic is carried, we ition that there are two hundred large steam- the Mississippi, making the voyage up and twenty-four days. The cargo of one of these as follows:—501 barrels of pork, 9 hogsheads , 2138 kegs of lard, 3147 barrels of flour, 30 gin, 92 barrels beef, 50 boxes merchandise, 32 porter, 224 barrels eggs, 50 horses, 32 cabin rs, 42 deck do., 31 way do.; and this was the rgo every trip. The traffic from north to south e coast is greater than might be inferred, even a specimen of internal trade by the rivers; the productions of the northern and southern on the sea-coast are as different from each those inland, while the states in that part of try have been longer and more densely peo- his active intercourse by rivers, canals, rail- nd sea-coast, increases the value of land and ry every where: the produce of the agricultural s can always be sent easily to the towns, and manufacturing places to those which are more ely agricultural. The United States have too mmenced industrial operations, to possess either lth or available resources of such an old-settled strious country as England, and therefore both ency and means of defence are upon a compa- meagre scale. The bulk of the money, for in- employed on great public works, and borrowed different states, has been lent by British capital- the stock of the United States Bank, five-sevenths erstood to belong to England. So stupendous, r, are the natural resources of the States, and ly may they be developed, that with peace, and owing those pursuits of industry which are iate to the country, the nation at large cannot long a debtor to foreign powers.

CANALS, RAILWAYS, AND PUBLIC WORKS.

n America was first settled, the people chose the vicinity of the sea or navigable rivers, so ve the means of free communication to all parts r; and lands even of inferior quality were found alumble in such districts than richer soils in

are now hardly to be equalled in the world, and these channels have opened the tide of population and prosperity into inland districts and rich lands, which must otherwise have lain waste and lost, except to a few slovenly and ignorant persons. One of the states alone (Pennsylvania) has, since 1826, devoted no less than £5,800,000 to this object. New York has been even more liberal; and there is no part of the country (always excepting the slave states, which in this respect, as in all others, are greatly behind) where such means are not taken to afford the occupiers of land means of bringing their produce to the market of cities. This is a matter which very nearly concerns the settler every where; because, however good the soil of his farm, or however unremitting his own industry may be, every advantage would be thrown away, if he could not get the produce disposed of. Some of the settlers in Canada, at the head of Lake Erie, were so badly off in this respect, till the opening of the Erie canal, that their surplus wheat and cattle were worth nothing: money was not given for farm-produce in that quarter. Wherever there is a good canal or navigable river, on the other hand, the prices of farm-produce rise, and land which was unsaleable becomes in request, and is covered with a throng of settlers from Europe, or of the restless speculators of America.

The Erie canal was planned by an American patriot, Mr De Witt Clinton, and was carried into effect at the expense of the state of New York. It extends three hundred and sixty miles along a rich and fertile country, which had formerly no communication with markets, but which can now send its produce to the sea in two directions. It is forty feet wide at top, twenty-eight at bottom, and four feet deep. It was finished in five years, at an expense of 9,027,456 dollars. The waters of Lake Champlain are connected with the Erie canal by another sixty-three miles long, which was executed at an expense of 1,179,871 dollars. The amount of tolls collected on these canals in 1822 was 44,486 dollars, and in 1834 this had increased to 1,313,155 dollars.

Houses, villages, and towns, are starting up along the whole line of the Erie canal, with unexampled rapidity. Lockport, for example, is a place where the canal is carried by locks up a steep rock of seventy feet. This spot has been suddenly transformed from a wilderness into a thriving village of two thousand inhabitants. Rochester is another example of the benefits the canal has conferred on the country: at that place there was abundance of most fertile land, and there were also certain falls on the river Genessee, which were admirably adapted for giving water-power to mills and other machinery; but all these advantages existed to little purpose without good roads and markets. The opening of the canal has supplied these; and the consequence has been, that Rochester has all at once started up from a desert into a populous city, and presents, says Mr Fergusson, a remarkable instance of what may be done in the way of transition, exhibiting in its streets a perfect sample of the progress from stumps to steeples. It is not long ago since its most crowded streets were a forest. *The first settlers* cut down the trees, leaving *the stumps standing till* they had more leisure; and

a canal stretches from the Delaware to t
from the Delaware to the Chesapeake; a
Chesapeake to the Ohio. The rivers Potom
nandoah, which were formerly obstructe
have been rendered completely navigable
struction of canals and lockage at each of t

It would be idle in us to attempt here a
tion of even a small proportion of the w
of this nature which have been executed
Wherever the navigation of a river has b
by rapids or the occasional shallowness of
obstacle has been overcome, if there were
minerals or fertile land to be made accessi
the banks of some rivers of this kind, canal
carried for 100 miles; as, for instance, the
the Lehigh and Schuylkill, in Pennsylvania.
two navigable streams, flowing to differe
separated by a ridge which it is possible t
by a canal, the work is attempted, and th
cation made complete from sea to sea. I
this are found in the Champlain Canal, wh
pleted, and connects the Hudson and St Law
in canals between the Miami and the Wab
River and the Ovisconsin, which are both
effected. It is not that the Americans are
rous or more patriotic than other peopl
undertake these works; it seems rather to
a spirit of restless enterprise, which cannot
with turning to advantage the land within
but must be always hurrying away to see
sources of some new region which is supp
more fertile than any yet discovered. And
for the manner in which the Americans w
British in this species of undertaking, ought
tioned. All great improvements in this
impeded by powerful factions of men who
ancient systems, however absurd; whereas
all classes seem to strive to improve the
general principles of utility, without regard to
usages. Whatever may be the cause, it is
effect of opening up to the over-crowded po
Europe rich and inexhaustible countries, to
may emigrate for ages without filling them,
would have been of little advantage witho
nels of communication now opening by the

Although it is only since the year 1824 tha
have been used for general traffic in the Un
yet that country has a greater extent of rail
any country in Europe. Some of these ar
magnitude, and others have been constructe
where the difficulties might have been thou
insurmountable. The Camden and Amboy
sixty-one miles in length, and brings the cit
York and Philadelphia within a few hours'
each other. The Philadelphia and Columbia
the portage-road over the Alleghany moun
stitute part of the great inland communicatio
the Delaware and Lake Erie. The railroa
mountains is thirty-six miles long, and in th
overcomes a rise and fall of 2570 feet. In
it there is a tunnel 900 feet long cut throug
rock, and it has ten stationary steam-engin

outlet, the St Lawrence. These lakes lie along
mmit of a range of elevated ground, which
es nearly across the continent, occupying nar-
ep cavities hollowed out on this summit level,
ey receive the waters of all those small rivers
are formed on the flat region lying around them.
incipal lakes are four in number, and are called
ning from the eastward) Lakes Ontario, Erie,
, Michigan, and Superior; the navigation from
ntario to Lake Erie is interrupted by the Falls
ara, where that river (the same which is called
Lawrence after it quits the lakes) is precipitated
rock of 160 feet high. From Erie to Huron,
of large size pass uninterrupted, but the commu-
n is impeded in the channel which connects Lakes
gan and Superior with Lake Huron, by the straits
dary. At Niagara, a canal, called the Welland
has been formed by the British government on
nada side of the river, which enables vessels to
om Ontario to Erie without impediment; and the
ll no doubt be performed by one or other of the
ments for the straits of St Mary, whenever the
ase upon these more remote lakes shall justify
pense of such an undertaking. The whole chain
e inland seas will then be navigable from one end
other; and as their shores are all of great fertil-
e region lying around them may be expected at
uture time to be one of the busiest and richest
globe. At present, as they extend along the
rn limits of the United States, they afford to that
boundary nearly the same commercial advan-
s those possessed by a sea-coast, and give a sti-
mulus to the industry of all the districts con-
with them. The following is a summary of par-
s connected with the extent, depth, &c., of the

	Length. Miles.	Width. Miles.	Depth. Feet.	Elevation above the Sea.—Feet.
,	180	40	500	231
	270	80	200	565½
	250	100	900	613
gan,	400	50	unknown.	613
or,	400	100	900	641

e of the navigable rivers of the United States
o the lakes, and there is no river that flows out
n over which that country has command, so that
d appear that the advantages it can derive from
are but limited. To remedy this inconvenience,
the Americans soon perceived and regretted, they
ed canals from the most of their inland districts
upper portion of the lakes; while from their
shore (or that which is next the sea) they have
ted others, to give them an outlet to the ocean
their own territory. The navigation is thus
ed complete, from the shores of the sea at New
by a canal, to Lake Erie; thence to Huron and
gan; and from thence by other canals to the in-
ates of the west.

igable Rivers.—The navigable rivers on the
n side of America are numerous and important.
ay first mention the Connecticut, a large stream
; into the Atlantic near the north-east end of
Island: the Hudson, a river navigable for steam-
of the largest class for one hundred and sixty
above its mouth, and the channel which has en-
New York to extend its commerce by a canal to
kes: the Delaware, flowing past Philadelphia,
fording communication by itself or its tributaries
country three hundred miles in length, and of
equal breadth: the Susquehannah, the Potomac,
mes River, and others flowing into the Bay of
peake, which, by the help of canals, afford en-
to vessels of one kind or other into the deepest
s and recesses of the eastern country. Southward
e Roanoke, flowing into Albemarle Sound, and
mlico River, affording channels for the commerce
rth Carolina; while South Carolina and Georgia
nnelled in the most complete manner (if we may

use the expression) by the rivers Pedee, Santee, Savannah, Ogeechee, Alatamaha, &c.; and East Florida enjoys the same convenience in the River St John's and its branches.

But the eastern rivers, useful as they are (and they have certainly as yet been the chief seats of commerce in the country), are by the Americans themselves entirely lost sight of in the enthusiasm of their admiration for the immense streams which water the western and inland states. These great rivers are certainly not to be equalled in any other country, at least in any country which has had such skill, or such a form of government, as have enabled its people to turn the commercial facilities of their inland waters to proper advantage. The rivers to which we allude are the Mississippi, and the large tributaries which arrive from the east and west to fall into the channel of that great stream.

The number of steam-boats on the western rivers in 1834 was about 230, measuring 39,000 tons. Besides these, there are 4000 flat-bottomed and keel boats, with a tonnage amounting to 160,000. Only a few of these vessels, however, are fit to go to sea, being only suited for river navigation.

MINERALS.

There is a great variety of useful minerals distributed through different parts of the states. Coal may be mentioned among the first: it exists through all the country, lying north of a line drawn from Philadelphia to the mouth of the Ohio, and is particularly abundant on the upper waters of the Susquehannah, as well as on the Alleghany and the Monongahela. At Pittsburg there is a hill principally composed of coal, and it is found at many places in this district within a few feet of the surface. There are extensive coal-mines also on the Roanoke and Appomatox, in Virginia.

The country on the Ohio is particularly rich in mineral productions. The whole district is bottomed on limestone, on which rests the wide and valuable coal formation mentioned above, extending from the head waters of the Ohio, in Pennsylvania, to the river Tombigbee. Iron ore is found abundantly in the same district, principally towards the upper part of the Ohio; bog ore is found in the valleys of the Alleghany chain; and various kinds of ores, of the same metal, are met with in the New England states: at one place, carbonate of iron is found, which, on being reduced, produces steel, and is called *steel ore*. Black lead, in beds of from five to six feet wide, traverses the states of New York, Jersey, Virginia, Carolina, &c. Copper ore is found in Virginia, in Connecticut, and in New Jersey: it exists also in the neighbourhood of the lakes; and a piece of pure malleable copper, weighing three pounds, was found in Illinois.

Gold mines have been traced extending through a large tract of country in the western parts of Virginia, North and South Carolina, and Georgia: they are wrought to a considerable extent, 20,000 men being employed at the different workings: the miners, who are people of all countries, say that the produce is richer than that of any other mines on the globe: one piece of pure gold was found weighing twenty-eight pounds. The annual produce is about one million sterling; but we have not heard what proportion of this is expended in the work, or what actual profit has been realised. One singular fact is remarked concerning these mines, which is, the indubitable evidences found that they have been wrought at some period before America was known to the Europeans. Many pieces of machinery which were used for this purpose have been discovered in the workings, among which were several crucibles of earthenware, which are far better than those now in use.

Silver and its ores are not of frequent or extensive occurrence. Mercury has been found native in Kentucky, but it occurs plentifully in the ore as bituminous cinnabar, through the Ohio and Michigan territory. It is found in the soil as a black or red sand, sometimes as a fine red powder, and at other times in iron clay. There are lead mines of vast extent on the Missouri; they are said to occupy a surface hundred miles in length, and two hundred in One miner will raise about two thousand pe day, which sell for forty-five dollars, and yie hundred pounds of pure lead.

Epsom salts, Glauber salts, and nitre, are Ohio and Indiana; the two latter in caves, th in a thin layer on rocky surfaces. Salt, whic tries far removed from the sea is an article expense, is produced from salt springs, or fro in different parts of the western country. waters of valuable medicinal qualities occur places; the springs principally frequented ar Saratoga, in New England. Oil of vitriol, or acid, is got almost pure from the earth, in near the town of Byron. It oozes out from a low hummock, and may be collected by digg in the ground. There are several places whe mable gas issues from the earth: one is a s called Sodom, the bottom of which is formed green slate, the sides of white shell-marl, and of black mould; the water is uncommonly tra so that the basin looks like an immense porcel the water is of the quality of that of Harrow gas issues from it abundantly, and, when kindl along the surface with a bright red flame by

GEOLOGICAL PECULIARITIES.

In examining the geological structure of rican continent, some singularities have been which are believed not to correspond with th formed in Europe on this subject. We shal a few of those which appear to be most in There is no chalk found any where in the state is there any roestone (or oolite, as it is calle logists), though the localities where both mig pected are sufficiently marked. Mr Macla that some shells of the recent alluvial form New Jersey are identical with species found condary rocks. There have been discovered limestone of the elder secondary formation, t of human feet; the marks are those of a ma nary size standing erect, with his heels draw his toes turned outward; the toes are muc and the feet flattened, like those of people t tomed to shoes; the impressions are strikingl exhibiting every muscular swell and depres accuracy. Every thing seems to warrant th sion, that these marks were made at a time rock was soft, and received them by pressu geology dates at a period very long indeed general flood. They were examined by Gove and Mr Schoolcraft, at St Louis and Hercul the Mississippi, and they exist also at the land mountains, always in the same kind of Other singular facts (unconnected, however, above) have been observed in this district. away plains, on the Ohio, a human skeleton seventeen feet below the surface, in a bed and shells deposited by water, and having ni earth over them. At Cincinnati, in digging arrow-head was found ninety feet below the and in Illinois, fragments of antique pottery of coarse earthenware have been found at eighty feet below ground. In forming the E the workmen, when digging this ridge of gra several hundred living shellfish at a depth of feet. They were chiefly of two kinds of *m* water mussel, of which several species exist in one, called *smurstin*, is used for food in Zet another is eaten about Cork, where it is cal *loons*; we do not know if the species which out of the gravel are found among the prese can shellfish. *Living toads* have been found in as here, in solid rock, of what has been called stone-grit.

PECULIARITIES OF DIFFERENT DISTRICTS

America is generally considered and spoken

untry, its people as forming a single nation, and the marks which are made with regard to one part of it e supposed to be equally applicable to all. No idea, wever, can be more fallacious. The region which term the United States is composed of sections of untry as remote from each other as London is from nstantinople, or Madrid from Berlin: they lie under ferent climates, and the different circumstances under hich their inhabitants are placed form in each a totally ferent set of manners. The English language is mmon to all, and they all profess the Christian reli-on; but in most other respects the difference between nm is as great as between any two European nations. he great divisions under which the country ought to viewed are the north-eastern or New England states, which for the present may be included Pennsylvania; 2, The southern or slave states, to which section also may refer Kentucky and Tenessee; and, 3d, The w states of the west, which are in progress of settle-ent. The manners of the New England states are rmed on the model of those of our own country, and ere are few circumstances in the nature of the climate hich tend to produce any material alteration; it is mong them only that due provision is made for the ucation of the people or for religious instruction. he productions of the soil—the modes of agriculture —the arts and occupations to which these give rise— e alternations of season—and many other things, have ll a resemblance to those of our own country. They ltivate wheat and the other European grains; their rden vegetables, potatoes, turnips, carrots, cabbages, c., are the same as ours; they employ the same do-estic animals; and they use, of course, the same agri-ltural implements, the same grist-mills, &c., requiring e the same tradesmen to prepare and work them.

Even in these great divisions which we have pointed t, there are portions which differ exceedingly from ch other. New Orleans, for instance, which belongs the slave states, has a completely different set of anners from Charleston in Virginia. The former is a y of immense trade, situated at the mouth of the eat river Mississippi; it contains a mixed population f blacks of all shades, and of white men from every tion in Europe. Its streets are crowded and speckled th people of every colour; its quays with ships of ery country; and its wharfs are loaded with bales of ods from all quarters of the earth, some coming from rope or from China, to be carried for three thousand les up the inland rivers of America; others sent wn these rivers some months' voyage, to be carried the West Indies or the Mediterranean. The air of e place is unwholesome, and it is a mart where peo-e hurry to make money before they be overtaken with kness and death. Such are the influences under which e manners and character of the people of New Orleans re formed. Charleston, on the other hand, is the pital of a wealthy agricultural state; the pursuits of e people are not decidedly commercial; the town is e resort of numerous country gentlemen, who pride mselves rather on the oldness and respectability of eir families, and the extent of their property, than n the activity of their business habits. The gentry trive to keep up, between themselves and their slaves, n exterior resemblance to the feudal relations of Europe; coats of arms are fashionable, as are liveries r servants: there is a general air of elegance and plendour in the buildings of the town: some of the ouses "are real palazzos, surrounded with orange ees, magnolias, and other trees of an almost tropical limate." There is much taste for the fine arts among e higher classes, and among the lower an absence of ll that bustle and variety of language and dress which ark a great commercial city. It is obvious, therefore, at the manners of these two places can have very ttle in common.

If we glance at the northern states, we shall find a difference of a similar kind existing between New York and Philadelphia. The former city is the great thoroughfare of all emigrants and commercial agents who arrive from Europe; the people passing through it daily are sometimes estimated at 15,000 or 20,000; it lies at a central point, having communication, by rivers, canals, and railroads, with the whole northern parts of the American continent. Grain, provisions, lumber, and manufactures, are brought from countries a thousand miles inland, for exportation, or for the use of places along the coast which have not the same facility of conveyance. People arriving there are secure of finding a passage to every other city inland or coast-ways; hence the streets and quays are constantly crowded with travellers and their luggage. The extent of its commercial transactions gives a facility to those who wish to engage in any kind of speculation, because here they can always learn the prices or the demand for every article of American produce; hence there is a restlessness, bustle, and continual spirit of change among its population, or a great part of it, which it would be vain to seek elsewhere in Europe or in America. Philadelphia, on the other hand, though also a place of very extensive commerce, has fewer channels of communication with the distant inland countries, and has of course a smaller variety of produce either raw or manufactured: hence there is less speculation; business proceeds with more steadiness, but less apparent bustle; there is in the streets an air of quiet regularity, where every one seems to go easily and leisurely about his business: and the transit of strangers through the place is but inconsiderable. The prevailing religion, which is Quakerism, has also a manifest influence in producing these effects. The influence of circumstances upon the manners of a people is nowhere more remarkable than it is here in the case of the negroes. Slavery is not permitted in this state; and the inhabitants do not countenance in all its severity that feeling of contempt with which black people are regarded in other parts of the Union; hence the Africans reside here in freedom and comfort, while they see their countrymen, a few miles to the southward, poor degraded slaves; and they are generally in consequence a contented, cheerful, and industrious caste.

Again, if we look at the western states, we shall find that, though there is a certain uniformity of manners over the whole, they are here also differently modified, according to circumstances. Pittsburg, for instance, with the neighbouring towns, Wheeling and Steubenville, are in the centre of a country which is rich in various kinds of minerals—coal, iron, lime, &c.; they are therefore filled with a manufacturing population, and the pursuits, appearance, and manners of their inhabitants, differ from those of the country around them, as those of Birmingham may be supposed to do from other places in the centre of England. The town of Cincinnati, again, which is situated on the Ohio, as these places also are, is a great inland depôt for merchandise to be exported or imported. Its inhabitants are merchants, attendants in counting-houses and ware-rooms, owners of river steam-boats, and a population attracted by the general trade of the place, while there is also a large number who are occupied in the very peculiar business of killing and preserving for exportation the immense quantities of live-stock reared in the country.

CLIMATE, SOIL, AND NATURAL PRODUCTIONS.

The state of Maine, which is the farthest north of the Union, reaches to latitude 48°: Florida, on the south, extends to within 25° of the equator. Between these two points there is a great variety of climate, and the differences of temperature are increased by the flat or sheltered situation of some districts, and the mountainous features of others. The New England states and Pennsylvania, lying between 40° and 48° north, approach nearest to the climate of England; but, owing to causes which are not yet perfectly understood, the whole Atlantic coast is warmer in summer and colder in winter by about 10 degrees, than the same latitudes in Europe. Some of the plants of this country, such as the holly, and the common *whin* or furze, when transplanted

thither, fade equally under the heats of summer and the frosts of the cold season, and cannot be preserved except in greenhouses. In winter the rivers are frozen, so as to bear horses and waggons. The air is in general drier than in this country, and wet showery weather much less frequent; so that farm work is conducted with more regularity and more security than with us. Winter does not set in till the middle of December; after which frosts continue with more or less severity till March, with frequent and great changes from mild weather to intense cold. In April the season becomes again fine, sunny, and dry.

In the states south of the Potomac, the climate is much warmer; the winters, which indeed are hardly to be called winters in our sense of the word, are short and mild, frost being little felt except during the night. The heat of the warm season is like that of tropical countries; but this is felt chiefly on the sea-coast, which is in general low, flat, and far from healthy. The inland parts being more elevated and hilly, the climate there is more temperate. The whole coast from north to south is subject to tremendous hurricanes, which sometimes do much mischief.

The climate of the western states, forming what is called the Basin of the Ohio, is different both from that of New England and from the southern districts in the same latitudes. The *average temperature of the year* is nearly the same at corresponding points on both; but there are fewer inequalities in the west, neither the heat nor cold reaching the same extremes. The thermometer seldom falls more than ten or twelve degrees below the freezing-point. Frost does not become permanent till near the close of December, when standing water and small rills are frozen from three to fifteen days. Many plants, such as the cotton, the catalpa, sassafras, the Illinois nut, flourish in the western states, in latitudes where they would not thrive on the sea-coast. The air is more moist, fogs and heavy dews more common.

Soil.—That portion of the New England states which lies east of the river Hudson, is broken and hilly; the soil in general thin, unproductive, and better adapted for pasture than tillage. From New York, all along the sea-coast southward to the Mississippi, there is a tract of flat sandy soil extending inland from thirty to one hundred miles; it produces nothing but shrubs and pine-trees, except on the banks of rivers and marshy places, where rice is grown. Backward from this line to the foot of the Alleghany Mountains, there is a tract of carse land of variable breadth, but of great fertility. The Alleghanies themselves are not cultivated, but the valleys between their ridges are rich and useful land. The district inland from these is the Basin of the Mississippi, a region of vast extent; it is generally bottomed on limestone, well watered, and inexhaustibly productive.

Agricultural Productions.—Oats, rye, and barley, are raised in all the northern states, and also in the hilly districts of the south. Of barley, two crops in a season are obtained in favourable situations. Maize is common to every part of the Union, but thrives best in the middle states; it is a vegetable adapted to a greater variety of soil and climate than wheat, and yields a much larger produce. The sugar maple grows every where, but thrives best in the good maize districts. Wheat is also cultivated through the whole Union; but it is only a profitable crop to the north of the Potomac, or in the hilly districts of the south; in these situations it yields large returns, and of excellent quality; in the [illegible] warm districts it is not cultivated; these are more [illegible]rable to the rice crop. In general, it is remarked [illegible]e late wheat countries are favourable to the [illegible]an constitution, and that in rice countries, which [illegible]m and moist, the African population has a great [illegible] in respect to health and longevity over whites. [illegible]ltivation of tobacco begins in Maryland, in [illegible]9°; it is raised to a greater extent in that [illegible]in Virginia than in any others of the Union; [illegible]ves also in all the western states. Cotton does not succeed well farther north than the la[illegible] 37°, though some of the districts raise it for [illegible] use; it forms the staple of all the districts sou[illegible] river Roanoke. The best kinds grow in South [illegible] and Georgia, in dry situations, upon the sea-co[illegible] cultivation of rice occupies nearly the same [illegible] that of cotton; it is a very unhealthy occupatio[illegible] slaves who are engaged in it. The climate [illegible] favourable to sugar does not extend beyond the[illegible] of 32°; it is raised in the states chiefly for [illegible] use, and is not an article of export to any exte[illegible] crop is rather precarious, from the frosts whic[illegible] times occur even in the most southerly districts. [illegible] has been tried in America, but could not co[illegible] competition with that of Bengal.

The vine grows spontaneously in most of the [illegible] and western states, and is cultivated as a fru[illegible] Philadelphia. The mulberry tree, hops, and h[illegible] succeed well in the middle and western states.

The timber-trees of the states are of numero[illegible] and many of them of the best quality. Th[illegible] twenty-six kinds of oak, of which eleven or[illegible] species are in request; the best for common [illegible] is the *white oak*, a tree which is found plentifu[illegible] the whole country: the *live oak* grows in marsh[illegible] near the sea, and has a hard, heavy, and durable [illegible] much used for ship-building. There are eighte[illegible] of pine, cedar, and larch; seven kinds of map[illegible] or four of which furnish sugar—the best is ca[illegible] sugar maple; ten kinds of walnut trees; four [illegible] birch, the bark of one of which furnishes the [illegible] with canoes; six kinds of ash (the ash of this [illegible] is not of the number); besides many other t[illegible] very useful qualities. There are one hundred an[illegible] kinds which rise to a height of more than thir[illegible] while in France there are only thirty-seven of t[illegible] The flowering shrubs, *kalmia* and *rhododendron*[illegible] are cultivated here with so much attention f[illegible] splendid flowers, grow wild on the sides of the A[illegible] hills, to the height of fifteen or twenty feet.

Even in the most thickly peopled states, th[illegible] still remaining large tracts of uncleared woo[illegible] which give the country a wild appearance, an[illegible] an aspect on the whole very different from an[illegible] seen in Europe, where forests have long b[illegible] valuable to be allowed to remain uncut.

RATES OF PROFIT, WAGES, AND STYLE OF LIVI[illegible]

There is abundance of fertile land in the [illegible] States, which needs only to be broken up and [illegible] of woods to yield large returns for a slight [illegible] There are none of those obstacles to the cultiv[illegible] solitary districts which exist in the lawless or[illegible] proved condition of some other countries. P[illegible] is secure every where, and there is hardly a[illegible] however remote, which has not ready commun[illegible] by rivers, canals, or roads, with one or other [illegible] large cities. Hence, fertile lands which are [illegible] access are to be found by every one who is at a [illegible] employment, or who thinks his present occupati[illegible] profitable than he would wish. On such soi[illegible] accumulation of capital in agriculture is much[illegible] rapid than has ever been exhibited in any other [illegible] The valuations of 1799 and 1814 furnish inte[illegible] information on this head. From these it appear[illegible] in the fifteen years between these periods, the v[illegible] lands and houses (not reckoning slaves) in the [illegible] teen states, had, on an average, increased one hu[illegible] and sixty per cent., or from a hundred to two hu[illegible] and sixty. The rate of increase for the whole is[illegible] 6½ per cent., and the original capital is doubled in[illegible] eleven years. At this rate, capital accumulates[illegible] than twice as fast as population; or in other wor[illegible] increase of the people is always met by a double in[illegible] of the means for employing and maintaining [illegible] These remarks are derived from the condition [illegible] agricultural population; but they apply equally [illegible] whole, the rate of profit being the same in all o[illegible] tions. No man will submit to take small wages,

former statement. The number of foreigners not naturalised who were residing in the states in 1830 was 1,587; and as these persons cannot be naturalised till they have been five years in the country, this amount, with a little deduction, may represent the arrivals during the last five years, which will therefore be about a thousand per annum.

The census for 1830 gives the number of persons who have attained the age of one hundred and upwards, as follows:—

White men above one hundred, - -	297
White women, - - - - - -	234
Black people—men, - - - -	1000
... women, - - -	1011
	2541

The proportion of black people who live to a great age appears therefore to be much higher than that of the whites. This advantage the African race seem to possess chiefly in the southern districts. In ten of the states south of the Ohio and Potomac, the whole number of white inhabitants was five and a half millions, the number of blacks one million and a half (nearly); but of the former only three hundred are above one hundred years of age, while of the latter there are 730—a circumstance which shows that the climate of the south is better fitted for the negro constitution than for that of white people. Of the latter, only one in nineteen thousand arrive at the age of one hundred; while of the Africans one in every nine hundred reaches that age. On the subject of longevity we may mention, that, in August 1817, within a circle of twelve miles in diameter, in North Carolina, there were living sixteen persons between eighty and ninety years of age, twelve from seventy to eighty, and twelve from sixty to seventy. A child was lately born there whose father was eighty-four and mother fifty-seven years at the time of birth (*Warden's United States—Walsh's Register*). In Cumberland county (Virginia), seven persons died between the ages of ninety and one hundred and twelve years, within a short time of each other. In South Carolina it is remarked, that all who could be found above eighty (1808) were emigrants from Europe, and living in the upper hilly country.

THE COLOURED POPULATION.

Slaves.—The states which continue to support slavery are those which lie south of Pennsylvania and the river Ohio, with the new districts to the westward of the Mississippi; in all the others it is abolished. The whole number of slaves in 1830 was two millions. The condition of these poor people is every where very low; the field slaves are fed, lodged, and attended to, exactly on the same principle as that on which farmers in this country take care of their oxen and horses; a planter is sorry to see them dying or diseased, because he loses their labour, but they meet with no farther regard. It is frequently profitable to cultivate rice in very marshy grounds, or in fields artificially overflowed, where the negroes must work up to their knees in water in the heat of the day. Numbers of them take sick and die in this unhealthy occupation; but the planter only calculates whether the profits of his crops will pay for the number of new negroes which he is obliged to buy; he never thinks of the distress of these poor people, and even takes credit to himself in being liberal in sacrificing his blacks, in order to keep those rich grounds in cultivation which otherwise must be lost to the country. Mr Stuart of Dunearn mentions, that even where the slaves were well fed and attended to (as it is the interest of every proprietor to do with his cattle), he found them, in respect to knowledge and feeling, little removed from brutes, while all declared themselves unhappy and miserable in their situation. When their tasks are found deficient, they are whipped, put in the stocks, or forced to wear irons. One person was in the habit of punishing his slaves by fixing them down in coffins, and some of them had died under that treat-

ment. The cruel owner might have been punished by law had there been sufficient evidence of the facts; but as he took care to have no one present but slaves, whose testimony is not admitted in the courts, nothing could be done.

The gangs of slaves on large estates are in general tolerably well fed and clothed; but there is a numerous class of slaves belonging to very poor, and often very improvident, white people, and these are exceedingly wretched, toiling hard, with little subsistence and the harshest treatment. In all cases, the slaves live together with little more feeling of the decencies of life than the brutes that perish. Even when they are employed as waiters in the large inns and hotels of cities, they are not furnished with beds, all lying like dogs in the passages of the house. There are laws by which every one who shall teach a slave to read, or permit him to be taught, may be imprisoned for twelve months. The advantage of having labour performed by slaves, is to the proprietor very considerable: they are maintained at an annual expense of about thirty-five dollars each; while the interest on their original cost, at ten per cent., may be forty dollars; the amount is seventy-five dollars, or about £17 per annum. Now, the wages of a white labourer are here three times as great as in Europe, and cannot be reckoned at less than five hundred or six hundred dollars, from £120 to £150. It is no wonder, therefore, that the proprietors of slaves in America are jealous of any attempts to instruct or emancipate them.

Free Blacks and Coloured People.—From the black people having been first introduced into America as slaves, they are regarded every where with great contempt, whether free or in bondage. In the states where slavery remains in force, the free negroes or mulattos are treated with the greatest contumely; every impediment is thrown in the way of their obtaining education; and the senate of Virginia even voted that the increase of schools for coloured people was a nuisance which ought to be put down: by laws in the several states, any one who may instigate them to resent this ignominious treatment, or in any way to diminish the respect which is commanded to free people of colour for the whites, may be punished by fine and imprisonment. Clergymen in their pulpits, and judges on the bench, are not exempted from this regulation. But even in the free states, though laws of this kind are not in existence, people of colour are subjected to every mortification: they are not allowed to eat at the same table with white men, to attend at the same public meetings, or even to enter the same churches. From being thus always exhibited in a kind of degraded light among the more powerful class, they have not the same respect for themselves which they ought to entertain. Of the persons who are punished for crimes, a larger proportion are people of colour than whites. They have a greater difficulty in getting proper remuneration for their industry or talents than that favoured class; and their exertions are discouraged in all the higher lines of life. Numbers of them, however, notwithstanding all these difficulties, rise to great wealth, and live in a style of much elegance. They have churches and schools for themselves, with ministers and teachers of their own people. Great exertions are making by the Quakers, and other benevolent persons in the free states, to establish and maintain respectable schools for the education of black children. As the memory of their former slavery wears away, they will come to be regarded in a more favourable view. The whole number of free coloured persons in the states is about 300,000.

The Indians.—The number of Indians now remaining within the territory of the states, is estimated to be somewhere between 400,000 and 600,000; of these, about 75,000, consisting of tribes called Cherokees, Creeks, Chickasaws, and Choctaws, are in possession of tracts of land lying contiguous to each other in Georgia, Alabama, and Tenessee. There have been some disputes concerning their territory, and some of the adjoining states have used very despotic means to have them ejected from it: they still, however, re session; and as any violence done to them would excite much odium both in Europe an well-thinking people in the states, they are li to remain undisturbed. They have quite renou character of savages, and are all more or les gress towards civilisation; they cultivate whea pumpkins; rear cattle and horses; manufact oil, leather, &c. The tribe which has m greatest advances is the Cherokees, whose po in 1824, was 15,560; in 1810, it was 12,400, so are not falling off in number like the other They possess a fine, well-watered, and arable of five millions of acres; agriculture is well und apple and peach orchards are common; bu cheese are produced of good qualities: they ha good horses, and about 22,000 head of cattle. of them are good tradesmen, as blacksmiths, millers; and they have saw-mills, grist-mills, and other furniture of an improving communit have a newspaper edited by one of their own p their own language. Numerous and flouris lages are seen in every section of the country are remarkably clean and neat in their pers practise bathing universally. A young man the hand of a young Cherokee woman: she his offer, and gave as a principal reason that not clean in his appearance; that he did no Cherokees do, bathe himself in the river. T sider bathing and cleanliness in the light of virtue.

The Choctaws, Chickasaws, and Creeks, have so much noticed as the Cherokees; but they, in a satisfactory progress towards civilisation have good orchards and corn fields, and some are the owners of inns or hotels on the roads their country, which are found, we believe, to comfortable places of entertainment to tr There are a few books in the Choctaw langua the Creeks produce very neat articles of potte vases, &c., and pipe-heads of black marble ploughs, spinning-wheels, &c., are a further their thriving condition, and the growth of ec habits.

The Indians in the northern part of the st along the lakes, retain much more of the idle habits of their ancestors than the southern tri those of them who remain near the white set little superior in appearance or character to th of Europe. Reserves of land have been set them out of their former hunting grounds, and cases these have been entirely surrounded by t and settlements of the whites, the Indians still ing in their original patch of forest. In this st appear to be like animals of prey under confi their natural occupation is taken from them, seem to have no powers for any other. Their are found to be smaller upon every enumerati their idle, uncomfortable way of living, with t spect which is every where shown them by th tend greatly to prevent any spirit of union amo or any steps to prosperity. Some few of th settled into agricultural communities, and ha houses, churches, &c.; others have submitt time to the instruction of missionaries. Bu adds nothing to their respectability among th people, who prefer a good hunter to a good m they have seldom the steadiness to persevere.

Treaty stipulations, as they are called, ha entered into between the American governm most of the Indian tribes, for the removal of t from the east to the west side of the Mississipp has been partly carried into effect, and it seer that the Indians will soon be removed altogeth the States. In 1838, 25,139 Indians emigrated the Mississippi, and by this the American gov acquired 18,250,000 acres of land, for which 3,738,000 dollars in money or in lands.

"With regard to those Indians who refuse

re early with them than in this country; a circum-
nce which contributes to this practice of boarding.
young people, though they have always abundant
ployment and subsistence, cannot till after some time
umulate sufficient for furnishing a comfortable home.
e have Mr Cobbett's authority for stating that long
rtships receive no countenance from young ladies
America; females of every rank very quickly dis-
s a lover who requires time to make up his mind.
may be noticed here that women every where receive
greatest attention, both in their families and when
y have occasion to go abroad. Captain Hall, who
ms at one time to doubt concerning this circum-
nce, says in another, "it is a rule which we saw
iversally attended to in America, never to think how
n shall fare, till every female has been fully accom-
dated." As a proof that the same feeling exists
ong the working classes, we may mention, that in
ming establishments the females are never asked to
any work out of doors.

On American manners, Mr Shirreff, in his Tour in
rth America, has the following remarks. "On reach-
the United States, the plainness of the people's
nners appeared remarkable. In all classes there
s a total absence of grimace and corporeal token of
pect, with corresponding sounds of address, an ex-
ssion of obligation or thankfulness seldom being
rd. But on the other hand, vulgarity, rudeness, or
olence, is almost never met with in the humblest
lks of life. A general propriety of department and
ness of manner pervades the lower classes. In
nerica every individual seems possessed of self-re-
ct, and, in the intercourse of life, arrogance is seldom
umed and never submitted to. The civility of all
sses in the United States is so universal, that, during
intercourse with the inhabitants, I scarcely expe-
nced an indication of insolence, and never observed
t democratic sauciness which I was taught to expect
ongst the lower orders."

There are certain laws in the United States which
ve a peculiar influence on the manners of the country.
is not, for instance, allowed for a rich proprietor to
ve the whole of his wealth to any one of his children;
laws direct that it shall be divided equally, or nearly
among the whole. Hence large properties are
oken down, and the aristocracy of landholders, the
st important class in all other countries, have no ex-
nce in the states. As it is this class which in Europe
es the tone to a great many of the observances and
n feelings of society, the want of it in America has
owerful influence in forming a set of manners diffe-
t from ours; the farmers there are almost univer-
ly the proprietors of the land which they occupy,
d it is seldom very extensive. They have no rents
pay, and they cultivate only the best soils; hence
y have always large returns on their outlay; and
ough few of them acquire great fortunes, the majority
in easy circumstances. Some of the southern
nters, who are the richest *class* in the United States,
ve incomes as high as £18,000 or £20,000 per annum;
ny have from £3000 to £5000, but the incomes of the
jority do not probably exceed from £700 to £1500
annum. The next class to the planters, in point
wealth, are the great merchants in the commercial
ies, some of whom possess fortunes of £250,000;
se, however, are not numerous. As none of these
ns are, however, equal to the large fortunes which
inherited in Europe by the accumulations of several
nerations in one person, it is evident that there can-
exist in America those clubs of enormously wealthy
lividuals, who have such a powerful influence in all
affairs of the older countries. Extensive concerns
d great establishments, which in other countries are
pported by single individuals, are here carried on by
nt-stock companies: not only is this the case with
ks and canals, but with mills, steam-boats, woollen,
ton, and iron manufactories. The shares in the
cks of these companies are generally small, and thus
ord a ready means for mechanics, labourers, and

persons of all classes, investing their savings with advantage.

From the comfortable circumstances in which people of the middling classes generally find themselves, there are not the same restraints upon their moving from place to place, to improve their circumstances, as there are in Europe. Young persons have never the apprehension, for instance, of leaving their parents destitute, or dependent upon others, which often keep them at home with us. Married people, again, with a growing family, have generally a sufficient stock to enable them to move away with all their children, and take a long journey in whatever direction they may see a prospect of thriving. In England, where they have hardly a sufficiency from one day to another, this would be impossible; and hence the small number of working people in this country who are able to transport themselves to take advantage of the higher wages and better living of America. The journey by canal, river, and lake, to some of the back settlements there from the coast, is more expensive than that of an English family would be to Halifax, and the improvement of circumstances hardly so great; yet how few in this country, to whom this improvement would be the greatest, are able to take advantage of it! This power of shifting their place, and seeking to better themselves, has had a more peculiar effect upon the character of the Americans than any other circumstance. They have less of that superstitious attachment to one spot than is found in poorer countries, where the people cannot leave it: families think little of a journey of some hundreds, or even thousands of miles; and the numbers who are continually moving with their luggage, has made the opening of new canals and railroads to distant parts more profitable than it could have been in any other country.

RELIGION.

All forms of religion are equally favoured by the state in America, and the members of all have equal privileges. None of the clergy are paid by government, or out of public property, in any shape; they depend for their salaries entirely upon the congregations for which they officiate, and by which they are elected. The bishops, ministers, elders, or other officers, are chosen by the members of each persuasion, according to their several forms of church government, without the intervention of any other party. There are a great number of different denominations of Christians in America; the principal are the same as in this country, consisting of Catholics, Protestant Episcopalians, Presbyterians, Quakers, and the various classes of Independents. In some of the states there are certain denominations more prevalent than others. New England, for instance, was settled by the Puritans in Cromwell's time, and its religious condition bears the impress of that origin. Maryland was colonised by Roman Catholics, who are still numerous there: Pennsylvania by the Quakers or Friends; while Episcopacy prevailed in Virginia, the Carolinas, and Georgia. The first Presbyterians came from England, Scotland, and Ireland, and settled in Delaware and New Jersey. If the whole population of the states were divided into twelve parts, three of them would be Calvinists, chiefly of the Independent and Presbyterian sects; two Baptists; two Methodists; one Episcopalians and Lutherans. The rest include persons of many various forms of belief, and a considerable number who follow no religious profession.

There are about sixty colleges and seminaries for the education of young men devoted to the church, of all the different sects. In New York, it is found that there is one clergyman to every 1384 of the population; in Pennsylvania there is one to every 1123; in Kentucky, one to every 1377 of the white inhabitants. In Great Britain, the proportion is one to every 800 or 900—in Europe generally, one to every 1000. It must be recollected, however, that in America this whole number *are actually employed in* the ministry; there are none of them who are merely dignitaries, or who hold offices without labouring for the instruction of the people: this renders the proportion of actual religious teachers greater than at first sight it appears, when compared with the number of clergymen in European countries.

These remarks apply chiefly to the old-settled states of the east and north; and on this subject we beg to give the following extract from the work of a recent traveller of our own country, Mr Fergusson of Woodhill:—

"The religion of the states is marked by some peculiar features. It has been too frequently disgraced by wild and extravagant fanatics, and Unitarianism has in many places made dreadful strides. Still, the conclusion to which I have come is favourable to the growth of pure and vital Christianity in the populous and civilised portion of the states. I observed, in public and in private, a decent observance of the Sabbath. The official papers of the government uniformly recognise the superintending care of a beneficent God. No shops were to be seen open on the day of sacred rest, still less were the theatres or places of public amusement; public travelling was not in general use, and the transmission of the mail on that day had been debated in the preceding session of Congress, when the question was lost, chiefly on the ground that the constitution forbade any interference by government with matters of conscience. There can be no doubt, however, that Sabbath profanation is practised in some quarters to a great extent. As regards the fruits of religion, there can be little question, that, taking them as a people, the citizens of America are virtuous and exemplary. Conjugal infidelity is extremely rare, and in more than one of the states is visited by fine and imprisonment. In the large cities, at least of the middle and northern states, vice does not stalk abroad in that disgusting form which may be said to deprive respectable females in European towns of the free enjoyment of our public spectacles and walks."

We give one more extract on this subject; it is from Mr Stuart of Dunearn:—

"We went to attend divine service at Mr Stebbing's church. He had gone from home, and was unavoidably detained; and the person who had promised to officiate for him failed to appear, in consequence of the morning being stormy. The congregation assembled—a pause ensued: at length Dr Smith, one of the elders, rose, and said, that they ought not to separate without discharging those religious duties which had led them to assemble on the first day of the week. He then gave out a psalm from his own seat, and afterwards prayed. In the mean time, he had sent home one of his daughters for a volume of sermons, one of which he read. A second psalm was given out by him and sung, after which the service was concluded by a prayer from Mr Lister, a farmer in the neighbourhood, and one of the elders—the whole without any appearance of bustle or exertion." There are a great number of religious newspapers in America, which is a further proof of the serious habits of a large part of the population.

The remarks we have here made apply exclusively to the New England states, and to the older settled districts of the east; they may also perhaps be extended to the *towns* of the newly-formed western states, in which much attention is given to religion. In the slave countries, however, this condition is altogether reversed. North Carolina, with a population of 600,000, has hardly fifty clergymen; and South Carolina, with 420,000 inhabitants, has not more than forty. In Georgia there were only ten in 1818. In Virginia, the population is about one million; the number of clergymen not one hundred. The situation of Maryland is similar.

In the countries on the Ohio, Michigan, &c., which are in progress of settlement, there are no regular churches except in towns; the only opportunity the colonists have of attending sacred ordinances being at field-meetings, or *tent-preachings*, as they would be called in Scotland, which are held in the forests, and

ent of the state of education applies equally to every
rict. It relates, indeed, chiefly to the great towns,
to the thickly peopled places in their neighbour-
d. The remote townships, which in a country so
y occupied form a large proportion of the whole
, are frequently as much deficient in the means of
ruction as in regard to religious edification; and
have indeed little anxiety to improve themselves.
y of them pay no attention to the regulations for
ishing schools, and, were it left to themselves,
ld allow their people to remain as they are, without
r reading or writing. In America, however, as
ost other free countries, the well-informed portion
e community is the most active, and, like the little
m which leavens the whole lump, it is continually
ork to stir up a desire for information and light in
he dark places around it. The operations of bene-
nt societies have the same effect in the remote dis-
s of America which with us they have produced in
Highlands of Scotland and elsewhere; and they are
nately more successful, because, whenever a desire
information has been excited, the comfortable cir-
stances of the people enable them to go on educat-
themselves. In all the newly settled states, lands
e been allotted for the erection of academies, and
establishment of regular district or parochial schools,
rding as the population increases; six hundred and
y acres are generally set apart in each township for
purpose, besides one or two entire townships in
state for university funds.

LEARNING AND THE ARTS.

merica has produced several names of the highest
hority, both in learning and the arts. Classical
dies, which used to be looked on as the great test
earning, are not very extensively cultivated; but
eneral philology, or acquaintance with the prin-
es of language, this country possesses several very
nent scholars—among whom we may mention Mr
onceau, a native of France, but naturalised in
erica, and celebrated for his researches into the
ory and affinities of the different Indian tongues.
Wheaton, also, who is well known for his acquaint-
e with the languages and history of the north of
rope, deserves to be mentioned; and a Dictionary
the *English Language* has been published by an
erican scholar, Dr Webster, which was reprinted
England, and is highly esteemed. Many American
ters of the present day have attained very high
e, and their works stand side by side with the
t English authors. To mention those only which
well known in Europe—there is Dr Channing and
athan Edwards in divinity; Irving, celebrated both
a historian and a novelist; Bryant, a poet of high
er and elegance; Cooper, whose fictitious narra-
s have attained a fame hardly inferior to those of
tt, and which exhibit a set of manners completely
ginal to Europeans. It is questionable, indeed,
ther there is not as great a proportion of living
erican writers who have attained celebrity in Eng-
d, as there are of English authors of the present
whose works are read on the other side of the
antic. The American reviews, which often give
blicity to the opinions of men of talent in that
ntry, as ours do to those of philosophers and states-
n here, produce frequently as deep an impression
any European publications of a similar kind; and
selections which appear now and then in this
ntry from the American periodical literature, give
dence of as high talent in the writers, and of as
tivated taste in the readers for whom it is prepared,
any thing of the same description among our-
ves.

'There is in this country no class of men who can be
led authors by profession. Almost all the works
ich have issued from the American press have been
itten by men who have been engaged in some labo-
us profession or employment. These works have not
n written under the shelter of academic bowers, or

in the vicinity of large and well-furnished libraries, but under circumstances of inconvenience and embarrassment. It would therefore be unreasonable to expect that they should indicate that degree of erudition and literary culture which might be looked for under more favourable circumstances. Dr Franklin, the greatest American philosopher, followed during most of his life the profession of a printer; and Dr Bowditch, the most eminent American mathematician and astronomer, was, during his whole life, devoted to business relating to navigation and commerce, or finance. The most distinguished American theologians, as for example, Mather, Edwards, and Dwight, were devoted to laborious professional duties.

Since the beginning of the present century there has been a vast increase of persons who have written for the press, and also of the number of works published." The American Almanack, from which the above is quoted, gives a list of 776 names of American writers. The same authority estimates the number of copies of newspapers circulated in the United States at 100,000,000.

In science, the reputation of Europe is so compacted of what her philosophers of former times have done, and of what is now doing by those who continue their researches, that it would be absurd to institute a comparison in this respect. It may be remarked, however, in regard to America, that she possesses men who keep pace with all the discoveries and improvements of the sciences, and who are able to canvass and examine every thing which any new train of investigation may bring to light in other countries: if we add, farther, that one of the most splendid of these original trains of investigation was devised and traced to its result—the identity of the electric fluid with lightning—by the American philosopher Franklin, we shall have said as much for the scientific fame of America, as can be arrogated to itself by any European country. Of the American journals of science, that of Dr Silliman is well known in Europe, where it enjoys a high and well-merited celebrity. The recent growth of every thing in America has not given time as yet for the formation of those extensive museums and libraries which so much facilitate the researches of learned men in the old countries of Europe; and as the legislature has not power to vote money for these objects, it may be a considerable time before any thing is witnessed there like the splendid national collections of Paris, London, and Rome. There are, however, several museums: as, for instance, those at Salem, Boston, and Philadelphia, whose fame will gradually accelerate their own increase, and may at last attract national attention to the subject. There is no public astronomical observatory in the states, and the expense would be too great for any private means.

In mechanical science, which is the absorbing pursuit of the present day, the Americans have been no whit behind other nations in devising means for facilitating and abridging such processes of labour as are carried on in their own country. Steam navigation, though certainly first discovered in Scotland by Mr Taylor, was as certainly first brought to a useful and practical result in America by Mr Fulton. The machine which was contrived by an American for separating cotton from the seed—that for distilling salt water, or procuring sweet water at sea, by separating it from the salt—some contrivances for abridging the manufacture of iron-work—and many others adapted to the peculiar circumstances of their country—show the Americans to be equally ingenious, and equally acquainted with the resources of mechanical invention, as the English or any other nation.

The science of the Americans, as we have seen, has also been displayed in a very remarkable and useful manner, in the construction of several large canals and railways, some of which are hardly to be equalled in any other country. The same skill is exhibited in improving the navigation of their rivers, in constructing bridges, in architecture, and in ship-building.

FUTURE PROSPECTS OF THE UNITED STATES.

From the rapidity with which the population states has hitherto increased, and is diffusin over the wide and fertile continent of which possession, the most magnificent anticipatic formed by the Americans of the future great their nation. "Let us assume," say they, appears highly probable, that the people of the States will ultimately spread themselves ov whole North American continent west of the sippi, between the parallels 30° and 49°, as far Pacific Ocean. This will be found to add 1, square miles to the territory east of the Miss and, putting both together, the area of the States, thus enlarged, will be 2,700,000 square A surface of such extent, if peopled to the de Massachusetts, would contain two hundred m or if peopled to the density of Great Britain a land, four hundred and thirty millions. If the lation of the United States continue to multiply same proportion as hitherto, it is demonstrab the two hundred millions, necessary to peop vast territory, will be produced within a ce These are indeed magnificent anticipations, know no reason why they should not be realise we must remark, that, whatever they may add national greatness of the American name, they no means likely to be favourable in the same to the individual comfort of the members of its lation. It cannot be doubted but that the hig of wages and profits, and the rapidity with whic tal now accumulates in that country, are partly to the large tracts of fertile and easily accessib which are always at the disposal of its inhal Were the government weak, ignorant, or partia unoccupied territories might exist, as they do i other countries of the world, without being of tage to any one. In America, the qualities government render them easily available, as l they last; but nothing can renew the same adv after it has once been expended. As those s prospects, in which the Americans are fond of ind approach to realisation, the quantities of new la be daily growing less—the rapidity with which now accumulates will be diminishing in the sam portion—the wages of industry will gradually fa and as the nation becomes greater and more pov in the same degree will the resources of its ind population be lessened. But the truth is, these f concerning the rapid increase of population, a filling of the whole American continent with a of unparalleled power, "greater than the sands sea in multitude," are mere playthings of the nation. Too little is known of the real numerica gress of population to enable us to say any thing subject; and certainly it is not the circumstanc their immense and fertile country *will one day b occupied*, which ought to be a subject of satisfact pride to the Americans, however powerful the might then be, but rather that their gigantic popu has rich fields and abundant pasture in which to on its increase for many ages. During this time, i set an example of equal government and peacef dustry to the rest of the world, which, unhappily been hitherto wanting; and by the reaction of just ciples on the influential part of the old continen new nations of the west may be the means of rede it from many oppressions. When these are rea it will be seen, that, in our world too, there i wanting abundance of unoccupied and rich land: kingdoms and provinces of Europe, Asia, and A are at present shut up from industry by one ki barbarism or other, and the example of Americ yet enable mankind to enjoy the advantages of fertility.

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S'S

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AMERICA.

in, we have vast and dark forests, which never
to the woodman's axe, where vegetation pre-
s most gigantic forms. "In the interior of
ontinent," says Humboldt, "we almost seem-
selves to regard men as not being essential
er of nature. The earth is loaded with plants,
g impedes their developement. An immense
ce mould manifests the uninterrupted action
powers. The crocodiles and the boas are
the river; the jaguar, the *peccari*, the *dante*,
onkeys, traverse the forest without fear and
anger; there they dwell as in an ancient
e. This aspect of animated nature, in which
othing, has something in it strange and sad.
e reconcile ourselves with difficulty an the
d amid the sands of Africa; though in these
here nothing recalls to mind our fields, our
d our streams, we are less astonished at the
ade through which we pass. Here, in a fertile
adorned with eternal verdure, we seek in vain
of the power of man; we seem to be trans-
o a world different from that which gave us

ndes derive their name from the Peruvian
, signifying copper. They stretch, as we have
ughout the entire length of South America
sthmus of Darien, and are, indeed, prolonged
h America, traversing Mexico and the United
far as the shores of the Polar Sea. The
Andes vary very much in breadth. Near
d lake Titicaca (in Bolivia) the chain is 180
ad. The loftiest, which are near Quito, under
tor, were, until the height of the Himalaya
rtained, always accounted the loftiest in the
he Pico de Illimani, first peak, is 24,450 feet
; the second peak of the same 24,200 feet;
,000 feet; Chimborazo 21,440 feet; Cotopaxi
et; and Potosi 16,000 feet above the ocean
ll these are in Peru and Bolivia, and they are
st mountains in South America. When
t crossed the Andes, he passed through a deep
hich took him about twelve days to traverse,
l which time not the slightest trace of man
seen. The pass over the ridge was not more
n one to two feet broad, and resembled a
allery open to the sky. The Quebradas are
rents, dividing the mass of the Andes, and
the continuity of the chain which they tra-
fountains of great size might be swallowed up
almost fathomless ravines, at the bottom of
ly the astonished traveller can judge of the
gnificence of the mountains.

ne respect is South America more distinguished
he number and magnitude of her rivers, some
might with propriety be described as *running*
Of these the Amazon, or Maranon, claims
ank. For a space of 22°, in a direct meridional

distance, not a single stream descends the eastern side of the Andes, but what contributes to swell the ocean-flood of this river, which, for length of course and volume of water, has no parallel in the world. The main trunk is composed of several very large streams, its chief effluents being derived from the south. First is the Huallaga, whose source may be traced to the neighbourhood of Lima, not far from those of the Maranon itself. The next is the Ucayale, a river not inferior to the Maranon at its junction, and sometimes held to be the true Maranon. The Purus, or Cuchivara, is also a river of the first class; but the most celebrated of these tributaries is the Madera, formed from the Beni, the Marmore, and the Itenes. The Rio Negro, which comes in from the north, is likewise a very large stream. Having said this, we must refer the reader to the map for a description of its onward course to the ocean. The total navigable course of the Maranon is calculated at upwards of 3000 miles in a direct line; but the length of its course is estimated at 4095 miles. Ships of 500 tons burden might ascend it for 2500 miles, while many of its tributaries are equally navigable almost to their source. More than one-half, indeed, of this vast continent might enjoy a maritime shore from these numberless streams, any of which would spread commerce and civilisation through a widely extended empire. The territory watered by the chief stream and its branches is at least equal in extent to continental Europe, and may be stated at 2,177,000 English miles. There are no sand-banks, nor shelving rocks, nor ice at any time of the year, to impede navigation; and so strong an easterly wind blows constantly from the Atlantic, as to carry up vessels against the tide. Yet, notwithstanding all these advantages, the mighty Maranon rolls on its course through regions unknown to industry or civilisation. Throughout its whole course it is studded with large and fertile islands, from five, ten, twenty, to a hundred leagues in circumference. The waters of this mighty stream, and those of its tributaries, are stored with an infinite variety of fish of the most delicious kinds.

The La Plata, Plate, or Silver River, is next in magnitude to the Amazon. It is composed of three principal streams, the Parana, the Paraguay, and the Uruguay, and receives all the waters that flow from the eastern declivity of the Chilian Andes, and from the southern, south-western, and western faces of the Brazilian mountains. The three principal streams, with their tributaries, offer facilities for inland navigation little inferior to the Amazon itself. The estuary of the La Plata is broader than the British Channel. The length of its course is estimated at 2430 miles, and the area of its basin at 1,240,000 miles.

The Orinoco is the third largest river in South America, but much inferior to the two above mentioned. Through a direct course of about 1200 British miles, it receives all the streams that water the Caraccas and New Granada, with the exception of the coast rivers. It was only about fifty years ago that there was discovered a communication between this river and the Amazon, by means of the Rio Negro. Humboldt, who has since explored these rivers, has accurately laid down the previous courses and junction of the Rio Negro and the Orinoco. In one part of their course they flow along a level plateau, which has little or no declivity; their branching waters meet and mingle in a sort of basin; and when thus united, they form what is called the natural canal of Cassiquiare. There are several cataracts and rapids on the Orinoco, described by Humboldt as splendid in the extreme. There are some other very large streams in South America, particularly in Brazil; these will be noticed when we treat of the individual countries in which they occur. There are likewise some large lakes, which will be described in the same manner.

CLIMATE AND VEGETATION.

A country embracing so many degrees of latitude and *elevation, possesses of* course equally diversified degrees of climate. "The three zones of temperat originate in America," says Malte Brun, " the enormous difference of level between th regions, cannot by any means be compared zones which result from a difference of latit agreeable, the salutary vicissitudes of the se wanting in those regions that are here disting the denominations of *frigid, temperate, hot,* In the frigid zone it is not the intensity but tinuance of the cold—the absence of all viv the constant humidity of a foggy atmosph arrests the growth of the great vegetable pr and, in man, perpetuates those diseases that checked perspiration. The hot zone of th does not experience excessive heat; but it tinuance of the heat, together with exhalatio marshy soil, and the miasmata of an immens vegetable putrifaction, added to the effects treme humidity, that produces fevers of a mo destructive nature, and spreads through animal and vegetable world the agitation of rant but deranged vital principle. The tempe by possessing only a moderate and constant like that of a hot-house, excludes from its li the animals and vegetables that delight in the of heat and cold, and produces its own peculi which can neither grow above its limits, no below them. Its temperature, which does the constitution of its constant inhabitants, spring on the diseases of hot regions, and lik on those of the frozen regions. Accordingly journey from the summit of the Andes to th the sea, or *vice versa*, proves an importan agent, which is sufficient to produce the most ing changes in the human body. But living in either one or the other of these zones, m vate both the mind and the body by its m tranquillity. The summer, the spring, and t are here seated on three distinct thrones, w never quit, and are constantly surrounded by butes of their power. Vegetation presents number of gradations, of which it becomes to point out the principal.

In the region of the palms, next the sea, t cultivate the banana, jatropha, maize, and coc peans have introduced the sugar-cane and ind After passing the level of 3100 feet, all the become rare, and only prosper in particular It is thus that the sugar-cane grows even at t of 7500 feet. Coffee and cotton extend acro these regions. The cultivation of wheat co at 3000 feet; but its growth is not comple blished lower than 1500 feet above this line is the most vigorous, from a height of 450 feet. One year with another, it produces grains for 1. Above 5400 feet, the fruit of th does not easily ripen; but the plant is still although in a feeble condition, 2400 feet high region comprehended between 4920 and 51 also the one which principally abounds with or *Erythoxylum Peruvianum*, a few leaves mixed with quicklime, support the Peruvian his longest journeys through the Cordillera. the elevation of 6000 and 9000 feet, that the *dium quinoa* and the various grains of Europe cipally cultivated: their cultivation is greatly by the extensive plateaus that exist in the of the Andes, the soil of which being of smoot and requiring little labour, resembles the ancient lakes. At the height of 9600 or 10 frost and hail often destroy the crops of whea corn is scarcely any longer cultivated above tion of 7200 feet; 1000 feet higher and the produced; but it ceases at 12,600 feet. 10,200 feet barley no longer grows, and r sown, although even this grain suffers from heat. Above 11,040 feet all culture and cease; and man dwells in the midst of numer of lamas, sheep, and oxen, which, wandering

are sometimes lost in the region of perpetual

ANIMAL KINGDOM.

multitude and diversity of its zoological riches
ises with the other magnificent characteristics of
America. Among the quadruped beasts of prey,
nars are the most formidable, being of enormous
hey generally frequent the impenetrable jungles
irt the banks of the larger streams; and Hum-
who explored the Orinoco and many of its tri-
s, had many narrow escapes from them. The
, however, attack them fearlessly, receiving them,
ey spring, upon the point of a pike; a manœuvre
h they seldom fail. Pumas, a small species of
elots, and long-tailed tiger-cats, are common.
ppear to be unknown, and the largest wild ani-
pear to be the tapirs. Deers and antelopes are
ly scattered; in which respect South America
singular contrast to the opposite continent of
Monkeys, squirrels, and some other inferior
peds abound. Of domestic animals the list is
The horse and mule, originally brought by the
rds from the old world, are the most universally
the new, where they have multiplied prodigi-
The immense herds of wild oxen which swarm
ie pampas of Buenos Ayres, are well known;
re also of European descent. The guanaco,
alpaco, and vicuna, animals closely allied to the
f Africa, are found in abundance on the Andes
, Bolivia, and Chili. These were the only rumi-
animals found in America on its discovery by
aniards. They are not only valuable as beasts
len, but on account of their rich fleeces. The
logy of South America is celebrated for its
and splendour, but we cannot enter into details.
it necessary to occupy space with descriptions
eptiles, insects, and fishes. The forests abound
e two former, and the rivers and seas with the

EARTHQUAKES AND VOLCANOES.

he whole of the active volcanoes known to exist
world, by far the greater number are scattered
hat range of mountains which has been described
nding, under the name of the Andes, from the
o the north extremity of South America, and
passing along the Isthmus of Panama into North
a, every where keeping near the shore of the
Ocean. South America is therefore eminently
nic region. From the 46th degree of latitude,
ard to the 27th, there is an uninterrupted line
e volcanoes; farther to the north, in Peru and
they are less numerous, but very lofty and con-
s. The volcanoes of Chili rise through granitic
ins; that of Villarica, which is so high as to be
sished at the distance of 150 miles, burns with-
ermission. In Quito there are some above 16,000
height, as Antisana, Cotopaxi, and Tunguragua,
which frequently emit flames. As a necessary
uence of so much volcanic action, the region of
des is remarkable for frequent earthquakes. In
carcely a week passes without some slight tremor
surface being felt. In Chili, it is seldom that a
unmarked by some considerable shock. About
century, or oftener, a tremendous earthquake
the greater part of the Andean region, destroy-
es and towns, and producing extensive changes
earth's surface. One of the most destructive in
a times was that which occurred at Caraccas in
when about 20,000 people in the city and sur-
ng district (16,000 of whom belonged to the city
were destroyed, being swallowed up by the rend-
he earth, or buried beneath the ruins occasioned
shock. One remarkable result of these great
sions is an elevation of the land. In consequence
great earthquake in Chili in 1821, the land was
several feet along a space of a thousand miles,
receding from it accordingly, and leaving dry
an extensive tract formerly covered by the ocean. Similar raised beaches are to be traced at various elevations along the slope between the sea and the Andes, showing that phenomena of the same kind must have taken place at different distances of time. Indeed, it is now the belief of geologists that the whole of the continent of South America has been raised out of the sea at a comparatively recent period; and it is ascertained that a sinking of it to the extent of only five hundred feet would again submerge the greater part. Humboldt is of opinion that the Andean volcanoes are but the spiracles of an immense *volcanic vault*, extending under the surface of this part of the globe, and part of which is covered by the bed of the Pacific. The connection of the volcano of Pasto in New Grenada with the volcanoes of Quito, was strikingly displayed in 1797. A column of black smoke had continued for several months to issue from the former, but it suddenly disappeared on the 4th February of the same year, at the precise moment when, at sixty-five leagues from the city of Pasto, the city of Riobamba, near Tunguragua, was swallowed up by an earthquake. This eruption was of a very extraordinary nature. An enormous area of ground rolled backwards and forwards, like the sea, for four minutes, during which time every town on its undulating surface was levelled with the ground, and the cities of Riobamba and Quero were buried under the ruins of the impending mountains. Tunguragua was rent asunder and vomited a sea of mud, covering the valleys to the depth of 600 feet.

NATIVES.

The question respecting the origin of the native population of both continents of America, seems to have been settled by the discovery of Behring's Straits, and there is now scarcely a doubt entertained of their descent being Asiatic. There are, throughout most parts of the interior of South America, innumerable hordes of Indians still living in a savage and primitive state. Of the general features of these people it would be in vain to attempt an enumeration here, as they are divided into thousands of small tribes, or *nations*, as they call themselves, all distinguished by their own peculiar characteristics. Many of them, such as the Chilians and Peruvians—and of the former, the Araucanians more especially—were certainly marked, from the earliest period of their discovery by Europeans, by many of the finest and noblest traits of human nature while in an unenlightened state—hospitable, faithful, social, peaceful, and affectionate; while those in other parts of the immense continent were conspicuous, as many of them indeed still are, for all the cruel, deceitful, bloody, and barbarous features displayed by the most savage nations.

SUBJUGATION OF THE COUNTRY BY EUROPEANS.

After the discovery of Brazil by the Portuguese in 1499, the country was taken possession of in the name of the sovereign of Portugal. In 1531, it was divided into captaincies, and granted to such persons as were willing to undertake their settlement. But these lords possessors abused their powers, and a governor-general was appointed, with full authority, civil and criminal. The first individual selected for this high office entered upon the duties of it in the year 1549. The Pacific Ocean was discovered in 1512 by Nunez de Balboa, governor of Darien, which a few years before had been colonised by the Spaniards. In 1524, the famous, or infamous, Francisco Pizarro landed in Peru, which he found in a partially civilised state, and governed by a race of princes named incas. In a few years he completely subjugated this simple, and, in many respects, amiable people. The treachery, cruelty, and perfidy, by which he effected his object, have rendered his name odious to mankind; but into details we cannot enter. An army was dispatched from Peru for the conquest of Chili, but this proved a very difficult undertaking, on account of the indomitable courage of the natives. Of all the aboriginal nations of America, the Pro-

ever, showed something of the spirit of the Chilenos, and were only subdued with difficulty. The territory of New Granada was formed into a government in 1547, and Venezuela in 1550. Quito depended on the government of Peru till 1564, when it was constituted a presidency. These three territories underwent repeated changes, but finally became known under the names of the captain-generalship of Caracas (Venezuela), the viceroyalty of New Granada, and the presidency of Quito. Guiana was settled in 1550 by some French Protestants, who had fled thither as to an asylum from the persecution of the League. The Dutch settled Berbice in 1626; Essequibo in 1698; and Demerara somewhat later. The history of the ill-fated colony of Darien, established by the Scotch at the close of the seventeenth century, is well known. The country situated on the shores of the Rio de la Plata remains to be noticed. A considerable part of the river having been explored by Sebastian Cabot in 1526, the region was taken possession of for the Spanish crown. Buenos Ayres (*good airs*) was founded in 1535, but soon after destroyed by the natives. It was rebuilt, but a second time reduced to ruins by the savages; and not until 1580 did the Spaniards succeed in their object of erecting a city on this spot. In the meanwhile Paraguay had been colonised, and the country conquered as far as Potosi. The permanent settlement of the Spaniards here was greatly facilitated by the Jesuits, who founded those celebrated communities called *reductions*, or missions, in which they made strenuous efforts to civilise the natives, and bring them within the pale of Christianity.

CONDITION OF SOUTH AMERICA UNDER THE SPANIARDS.

The power of Spain and Portugal having been firmly established over the greater part of the South American continent, such methods of government were adopted as seemed best calculated to secure the allegiance of these territories to the mother countries. That the measures to which the Europeans had recourse for this purpose were tyrannical and most oppressive to the natives, may be taken for granted. We shall, in the first place, treat of the Spanish dominions, leaving Brazil to be noticed afterwards. The whole of the Spanish possessions in the new world were originally divided into two immense governments, one subject to the viceroy of Mexico, and the other to the viceroy of

The Creole, or American-born Spaniards, w
from all public offices, from the highest t
all of which were bestowed on the nativ
These functionaries, whose sole object w
money, acted the part of true despots towa
classes; plundering, taxing, and exacting,
slightest regard to mercy or justice.
affluence in offices without salaries, and
rivalled the laymen in the art of extracting
the natives. In a word, the Creoles were
situated than the miserable Indians.
general knowledge or information were pro
being imported; schools of every kind
while the priests filled the minds of the
the most childish superstitions and religi
Even to visit foreign countries was genera
to the people.

Amongst other deeds of darkness which
to light by that remarkable document, t
put forth by the congress of Buenos Ayre
of the revolution, we find it stated that
was disposed on the part of Spain, in Ame
the degradation of her sons. It did not su
of Spain that sages should rise up amongs
lest men of genius should remind them
the condition of their country, and of in
morals and excellent capacities with which
been gifted by their creator. It was her
santly to diminish and depress our popula
day we should imagine aught against her
guarded by a force too contemptible for ha
jection regions so various and vast. Ca
exclusively confined to herself, from a ma
that opulence would make us proud, an
capable of aspiring to free ourselves from s
tions. The growth of industry was check
that the means of escaping from our wret
poverty might be denied us; and we were e
all participation in public employments, i
the natives of the peninsula might have ex
over the country, so as to form the insi
habits necessary for retaining us in a sta
dence, that would neither permit us to thin
in conformity to the modes dictated by the

We must here find a place for the descri
distinct features of the tyranny exercised ov

ted, for there were several other causes which ed to thin the population, such as small-pox, r diseases, and the intemperate use of ardent he mortality arising from which might be to the operation of the *mita*. But such a t being made by the Spaniards themselves is a proof of the horrible nature of this conscrip- ie other grievance, called the *repartimiento*, ivilege originally granted to the corregidors or s of districts, empowering them to furnish to ns, at a fair price, articles of necessary con- . In course of time, this privilege degenerated mpulsory and oppressive exaction. Not only Indians compelled to purchase the most worth- modities at an enormous price, but articles h they had no use were forced upon them. nce, razors for men without beards; furs and or people who lived within the tropics; silk s for Indians who went barefoot at all seasons; tacles for those whose strength of vision was al. Even luxuries, the very use of which was to them, formed part of the supplies which e compelled to purchase. Such is a brief out- he system by which Spain continued for three s to sacrifice the interests and degrade the f many millions of human beings.

before the great revolt of the American pro- f Spain, partial attempts to shake off her e yoke were made in several of the provinces; have seen that it was never very securely upon the warlike natives of Chili. The most ble of these efforts to achieve independence made by Tupac Amaru, in the year 1780. ed to be a descendant of the last inca of Peru, beheaded in 1562; and to give eclat to the e assumed not only the name of his ancestor means *the highly endowed*), but the style and the incas. The immediate cause of the revolt shameful avarice of the corregidors of some who imposed upon the Indians more reparti- than the law gave the authorities power to them. At first it wore a very serious aspect, ultimately suppressed, after one-third of the opulation of Peru had perished by violence. mpt at revolution was made in Venezuela in d another in 1806, both without success. But ere taking place on the continent of Europe, singularly enough, were completely to change inies of South America.

THE WAR OF INDEPENDENCE.

a remarkable fact, that the first revolutionary mt originated not in a spirit of resistance to the by which America was oppressed, but in a enthusiastic loyalty to the imbecile Ferdinand, ereign ruler of Spain and the Indies. When narch was deposed and imprisoned by Napoleon, conqueror's brother Joseph was placed on the orders were dispatched to the colonies to their submission to the new dynasty. But they to transfer their allegiance from Ferdinand loved" to a usurper, although he was the brother oleon, who had then just reached the zenith of er. In this the Americans showed a great and ndable spirit of independence—it was a good f what should soon take place. On the 15th of 08, the people of Caracas took the lead in ning Ferdinand VII., the captain-general and ia being compelled to give way to popular feel- d a solemn oath of allegiance to the legitimate h was taken by acclamation. By an ancient it was provided, that, in cases of emergency, ivocation of cortes or general juntas, in the ive kingdoms of Spanish America, might take Here, then, was an emergency as momentous that could possibly occur. They were about transferred from their legitimate monarch to er of France, as if they had no voice in the whatever, and this they would not tolerate. The exercise of the right legally and constitutionally vested in these juntas seemed the best means of saving the colonies from the yoke of France. Yet such was the singular state of affairs at the time, that this demonstration of attachment to the lawful sovereign proved the signal for the declaration of hostilities by Spain, and the commencement of a war of extermination. But how could it be otherwise? Napoleon was now omnipotent in the mother country, and the loss of any of her colonies, which their standing out for Ferdinand must have virtually been, was not likely to be tolerated. So that instructions to the powers in the colonies to suppress any demonstration of the kind, followed as a necessary consequence of the position of the Spanish crown, and the affairs in the peninsula at the time. But a flame was kindled which was not to be quenched even at the fiat of a Napoleon. We are far, however, from thinking that ardent attachment to legitimacy was the sole or even the leading motive which determined the simultaneous movement which took place throughout the whole of Spanish America. It was the ostensible ground for the formation of juntas, but entire independence was clearly the ultimate aim of thousands, who were content at first to mask their operations with this disguise. In Caracas, the supreme junta assembled on the 19th of April 1809, and one of its first acts was to banish the captain-general and the members of the audiencia. Juntas of government were convened at La Paz, in Upper Peru, on the 15th of July in the same year; at Quito on the 19th of August following; at Santa Fe de Rogota on the 25th of May 1810; at Buenos Ayres on the same day; and at Santiago of Chili on the 18th September.

Buenos Ayres has been called the cradle of South American independence; yet at the period of the first British invasion of that city, Spain had nowhere more loyal subjects. But many of the inhabitants had grown rich by trade, and enlightened views had become disseminated amongst them, so that, although they displayed equal zeal with the other colonies in the cause of Ferdinand, they did not long conceal their design of ultimately erecting the standard of independence. Attempts were made to foist upon them a lopped-off scion of the royal stock of Portugal, but this scheme proved abortive. After some political squabbling, Cisneros, the viceroy, was deposed, and banished from the country along with the oidores. The junta, consisting of nine individuals, amongst whom were some very able men, now made no secret of their intentions. The people acquiesced, and thus, without bloodshed, a complete revolution was effected in Buenos Ayres. The city soon felt itself powerful enough to proselytise in the distant provinces of the viceroyalty, where some royalist generals had collected bodies of troops, declared against the revolution, and taken measures for putting the question to the arbitration of the sword. The army of the republic was entrusted to Balcarce, and its first campaign proved completely successful. Cordova, a city of the interior, attempted to change the course of events, but all opposition in this quarter was speedily suppressed. On the 27th of October and 7th of November 1810, the royalists were defeated at two different places on the distant frontiers of the viceroyalty. These successes gave Balcarce possession of the country as far as the Bridge of the Incas, near the great lake of Titicaca; and on the 25th of May 1811, the first anniversary of independence was celebrated on its shores, amid the ruins of the ancient incarial palace, 2000 miles distant from Buenos Ayres. Meanwhile Castelli, a man of great talents but most reckless temper, had joined Balcarce, having been sent to act in concert with him, and to assume the governorship of Upper Peru. But whilst the cruelties of this chief struck terror and dismay to the hearts of the Spaniards, his dissoluteness and want of attention to the affairs of the provinces, alienated the affections of the inhabitants of Upper Peru from their deliverers, and the common cause of both. This gave opportunity for Abascal, viceroy of Peru, striking a powerful blow in

patriots, who assembled in considerable numbers, and sought an asylum amongst the neighbouring mountains. The history of Buenos Ayres becomes now closely interwoven with that of Upper Peru. Indeed, the transactions which took place throughout the whole of the governments, are intimately blended with one another. A principle of mutual assistance was acted upon, and armies successful in one place marched many hundred miles to the assistance of their fellow-patriots, who were hardly pressed by the Spaniards in another. Thus the troops of different provinces, or republics, as they soon were designated, became mixed together, and Buenos Ayreans, Chilinos, Bolivians, Peruvians, and Colombians, fought side by side on the same field. This friendly co-operation amongst the republicans greatly contributed to their success; the struggle might otherwise have been protracted in many places, till a period long subsequent to that when the Spaniards were finally expelled from South America.

We have already had occasion to notice the valour and patriotism of the natives of Chili, so that the reader is probably prepared for a speedy overthrow of the Spanish power in that quarter; but events often take a very different course from what they at first promise, and from what is anticipated. The first revolutionary movements, indeed, were here accomplished without difficulty or violence, being greatly facilitated by a commissioner sent from Buenos Ayres. The Spanish governor was deposed; a junta was formed on the 18th September 1810, still, however, acknowledging the supremacy of Spain; and in spite of attempts to upset the new government, a congress met in June 1811, when many wise measures were adopted. Reforms in civil and ecclesiastical establishments were projected; freedom of commerce and of the press was declared; and this was the first legislature in South America which adopted efficient measures for the extinction of slavery. But the smiling aspect which affairs began to assume was soon overcast by the ambition of three brothers named Carera, who succeeded in forming a new government, and dividing the interests of the country just at the very moment when union was almost indispensable to the existence of the new system of things. The Spaniards in Peru took advantage of the crisis, landed an army in Chili, and seized the city of Conception and some other places. This occurred early in 1813. The Chilinos were not long in making head against the foe, and a bloody battle was fought, in which the patriots were victorious, the Spaniards retreating to a town which they strongly fortified. But various engagements took place, in which the royalists were generally successful, and by the end of 1814, the principal Chilinos leaders were forced to seek refuge beyond the Andes, which divide Chili from the plains of La Plata. Once more, then, the Spanish power became dominant in Chili, but its ascendancy was of short duration, for the celebrated general, San Martin, who makes such a figure in the subsequent history of South America, was at this period busily employed in organising an army for the liberation of his country, and with which he in no long time achieved it.

In New Granada and Venezuela the struggle was more bloody, variable, and protracted, than in any other part of South America. This portion of the dominions of Spain being comparatively easy of access, *and, from its central position*, to a certain extent a key *to the whole, she made* proportionate attempts to retain

he reappeared on the scene of his former
In July 1811, Venezuela declared its indep
Spain and all other nations; a constitution
up, a congress assembled early in 1812, and
seemed to promise a speedy termination to
in this quarter. But the whole aspect of
changed by an earthquake, which overwhel
of Caracas, burying many thousands of the
under the ruins. It is not new for the
inhabitants of the peninsula to attribute cal
duced by natural causes to the direct inte
the Almighty with the affairs of men. Thu
quake which destroyed the city of Lisbon,
attributed to the Jesuits, who were suppos
drawn down the vengeance of heaven!
was the pernicious influence of the clerg
minds of the people on the present occasi
dreadful casualty came to be generally re
work of divine vengeance for their adopti
order of things. The consequence was a
for the worse in public opinion, which th
were not slow to take advantage of. Mo
royalist general, marched against Caracas
effected its resubjugation, Bolivar himself
Curacoa. In 1813, he returned; and bein
with an army by the confederation of Grana
effected the liberation of Venezuela. Findin
sity of entrusting their affairs to the guida
one energetic mind, the Venezuelans mana
tator; and by his exertions, a union betw
publics of Granada and Venezuela was f
time effected in 1819, Quito being at this
the dominion of the Spaniards. This was th
federation, styled the *Republic of Colombi*
congress which ensued, a republican const
established, Bolivar being elected presiden
tander vice-president. The former immediat
to the seat of war; and after two years' ca
details of which it is impossible to give here
in completely overthrowing the Spanish p
lombia.

The most decisive battle of the whole wa
on the 7th of August 1819, at the bridge
where the royalists were completely rou
their whole army being taken prisoners. T
decided the fate of New Granada, giving
an ascendancy which they never afterward
a coincidence not unworthy of being notice
last battle in which the liberties of the anci
tants of the country were stricken down by th
was fought on the same spot. The balan
restored by the fortune of war.

We left General Balcarce with the army
Ayres retiring before the royalists of Upper
was superseded by General Belgrano, who,
two victories, was totally defeated on the
vember 1813; the patriot cause was thus
low ebb in the interior. Buenos Ayres had
its attention to the important provinces of
where, after various changes of fortune, a
ment was finally erected, with the celebrated
at its head, as dictator. The career of thi
has been more extraordinary than that
whom the revolutionary struggle brough
theatre of action. The government which he
was as completely despotic as any that

he hands of the royalists, and, but for the firmness ecision of Bolivar, the consequences might have disastrous to Peruvian independence. The die- however, proved equal to the crisis. There was rm in the name of Bolivar, and he was looked up the only man capable of saving the republic. He t disappoint general expectation; for in less than r from that time, South American independence nally established. After a series of marches and uvres, the liberating army and the royalists met e plain of Ayacucho, where a battle was fought, most brilliant," as General Miller says, "ever in South America." The Spanish army was all nihilated; and this may be considered as the gular engagement, although not the last struggle, ich Spain was engaged for the recovery of her ed colonies. It was fought upon the 9th of De- r 1824.

Bolivia, or Upper Peru, the royalists still retained endancy, but now that the victory of Ayacucho d the patriots to pour additional troops into the ry, under Sucre, a general alike distinguished for alour and ability, the cause of royalty rapidly ed. Olaneta, the Spanish commander, was killed affray with some of his own revolted troops in 1825, and from this time all serious opposition field was at an end. But General Rodil still ut the strong port of Callao against the patriots, a gallant but a hopeless defence. For thirteen s he sustained, unaided, bombardments both by d land, but at length capitulated on the 19th of ry 1826. Almost contemporaneously with this the island of Chiloe was captured by a patriot and the Spanish flag ceased to wave on the terri- f Chili.

shall now present a view of the various republics arose out of the ruins of the Spanish dominions th America; though without pledging ourselves e accuracy of all our details, as the state of infor- n on the ever-shifting political condition and gene- tistics of the different states is exceedingly defec- Brazil, the largest and most important state of ontinent, was all along totally unconnected with hers; and belonging to another order of things, eserved for a different destiny. The republic in the revolt may be said to have originated, and which it drew the vital strength that ensured ulti- success, was

UENOS AYRES, OR THE UNITED PROVINCES OF THE RIO DE LA PLATA.

united provinces of La Plata, or the Argentine blic, comprises the whole of that vast space ex- g from the cordillera of Chili and Peru to Brazil, he exception of Paraguay and the Banda Oriental, are independent states. It extends from the 22d 41st degree of south latitude, and from 55 degrees nutes to 71 degrees of west longitude, comprising ea of 720,000 square miles English, and divided irteen provinces, which, to a certain extent, govern elves independently of each other, but for all gene- national purposes, are confederated by conven- agreements. For want of a more defined national tive, the provincial government of Buenos Ayres porarily charged with carrying on the business union with foreign powers, and with the manage- of all matters appertaining to the republic in com- The executive power of that government, as con- d in 1821, is vested in the governor or captain- al, as he is styled, aided by a council of ministers nted by himself, responsible to the junta, or legis- assembly of the provinces by which he is elected. unta itself consists of forty-four deputies, one-half om are annually renewed by popular election. It t first attempted to establish a system of fede- , by which Buenos Ayres should exercise imme- control over the other provinces; but from various s the plan proved quite abortive. The national ization of this state is now limited to the slender

bonds of voluntary confederation, not only with each other, but with the old metropolis, Buenos Ayres. The whole territory is an almost uniformly level plain of great fertility, watered by the large rivers La Plata, Parana, Paraguay, and Uruguay, and several others of smaller dimensions; the Talado, Pileomayo, Vermijo, Nuevo, and that which empties itself into the lake Solatos, being the most important. There are likewise a number of lakes, the waters of which are brackish. There are almost no natural trees in the province, but there are numerous plantations, or rather orchards, of peach trees, which the natives cultivate for firewood —the fruit being applied to feeding the swine and poultry. Immense forests of thistles spring up at certain seasons of the year, of ten and twelve feet in height. Deer are plentiful in the wilder parts, but little prized where there is so much fine beef. The climate is extremely salubrious, and, singularly enough, is almost entirely governed by the winds, which, generally speaking, are northerly.

One of the distinguishing characteristics of La Plata, are the vast plains called *pampas*, one portion of which extends from the banks of the Paraguay westward to the frontiers of Los Charcas, and northward to the mountains of Chiquitos—another immense plain, 300 miles in length from east to west, and 1500 miles from north to south, as far as Patagonia. These plains present one uniform expanse of waving grass, uninterrupted by either wood or eminence, although in some places parched and barren, and perfectly uninhabited, unless by innumerable herds of wild oxen, horses, ostriches, and other animals. Over these pampas lies the only route by land from Buenos Ayres to Chili, which journey was formerly performed by large companies, as the plains were infested by hordes of roving Indians, who went there to hunt, catch wild horses, and plunder. From the absence of all permanent landmarks, the travellers over these immense plains shaped their course by the compass, and their caravans were in reality moveable houses, solid and defensible. Of late years, regular post-houses have been established along the whole line of road betwixt Santiago (the capital of Chili) and Buenos Ayres—a distance of nearly 1400 miles—and a regular communication is kept up betwixt the two republics by means of couriers, who perform their journeys with uncommon speed.

The city of Buenos Ayres is situated on the southern margin of the river Plata, where the latter is formed by the confluence of the Parana, Uruguay, and Negro rivers. It is thus, as it were, the key to all the internal navigation. The length of the Plata, from its formation to the ocean, is upwards of 700 miles. The city occupies a large extent of ground, being about two miles long, and a mile and a half broad, all the streets crossing at right angles. There are a university, several educational establishments, and a number of churches. The prosperity of Buenos Ayres and the other provinces is greatly impeded by the defective navigation of the river Plata, which is filled with shoals and sandbanks, and therefore dangerous to large vessels, otherwise the city of Buenos Ayres would become one of the largest emporiums of commerce in the world. The rivers Parana and Uruguay are each navigable for vessels of from 200 to 300 tons, 1500 miles into the interior; the former running through Paraguay into the centre of Bolivia. In 1806, Buenos Ayres was taken by a small English expedition, under Admiral Popham and General Beresford; but the inhabitants, recovering from their surprise, soon afterwards drove their assailants from the town. In the following year, General Whitelocke arrived with reinforcements; the troops were quietly permitted to enter the town, when they were repulsed with great slaughter, and ultimately compelled to evacuate the La Plata. There were no fortifications at the time the city was attacked by the British troops, and it was indebted for its strength solely to the peculiar structure of its buildings.

The estimated population of the provinces of the Rio de la Plata in 1836–7 was from 600,000 to 675,000, exclusive of independent Indians within the ter laid claim to by the republic. Of this number habitants, from 180,000 to 200,000 were reckon belonging to Buenos Ayres. Into details of tra cannot enter; indeed, it is impossible to obtain c information regarding the interior provinces, their merce being mostly of a domestic or internal n Buenos Ayres is of course the great centre of fo trade. In 1837, the imports from Great B amounted to £696,104; the total imports into t public being valued at 7,000,000 dollars. The e during the same year amounted to 5,637,138 d consisting chiefly of ox hides, gold and silver, s wool, jerk beef, horse hair, tallow, sheep-skins other products of the country. Of late years, th ports into Buenos Ayres have decreased, whilst of Monte Video have increased.

PARAGUAY.

The republic of Paraguay, formerly one of the provinces of the vice-royalty of Buenos Ayres, i ated between the rivers Parana (on the east and and Paraguay (on the west). It is divided by a tract from Brazil on the north. It comprises a of about 50,000 square miles, with a population of 250,000, seven-tenths of which are Creoles.

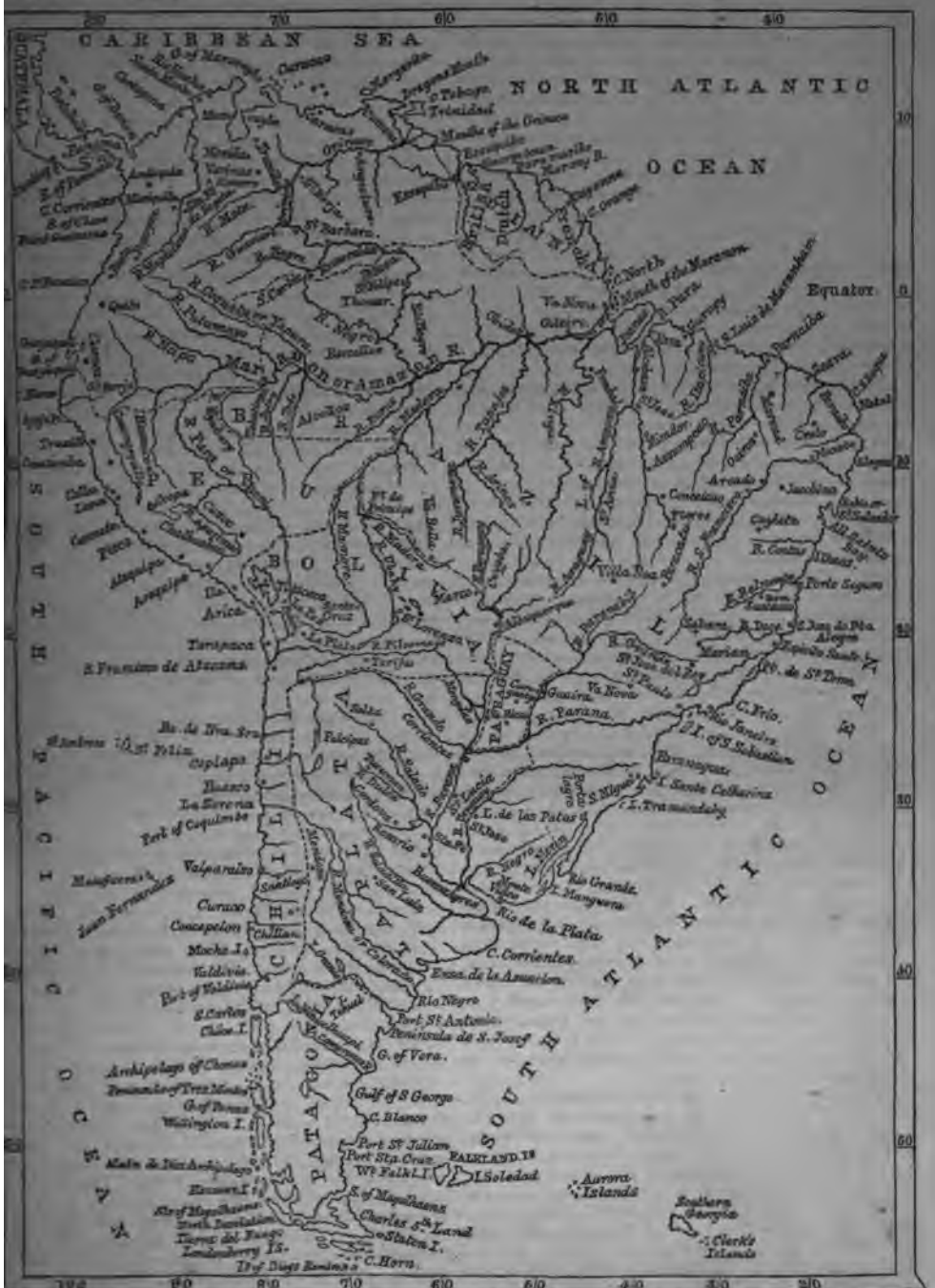
The climate of Paraguay is mild and healthy, alt moist, being low and level. All sorts of tropical corn, vines, sugar-cane, rice, maize, tobacco, indig a number of valuable medicinal plants, abound i fusion. There is a particular plant peculiar to guay, called *yerba*, and, when decocted, *matte*, greatly resembles the tea of China, and is by preferred to the latter. It is universally used in America. Of late years it has been cultivated in with great success. Immense herds of cattle roam the vast plains, whose hides and tallow form an of commerce.

From shortly after the declaration of indepen in 1811, until 1838, this beautiful and prolific was governed in a despotic manner by Doctor Fr a man of considerable talent, but it is believed crazed in mind, who had the address, like Crom dissolve the temporary government established revolutionary party, and to appoint himself sol perpetual dictator of the state. All things wer managed by him; he planned roads, bridges, and public works, organised the army, and interfered most minute arrangements. His rule was sup by excessive cruelty, and he lived in constant f assassination. This extraordinary despot died, eighty-second year, in 1838; but what has be political condition of the state since we have not Some writers are disposed to think that upon the Francia's dictatorship was beneficial for the co as he carried on various objects of utility, and pr respect and tranquillity for his people.

URUGUAY, OR BANDA ORIENTAL.

This comparatively small state, which occasi long and bloody contention between the unite vinces and the Brazilian government, is situat tween the river Uruguay and the Atlantic from to north, and between the rivers Plata and P from east to west. From its position, betwee Spanish and Portuguese settlements, it soon beca object of contention; but it would be a waste o to follow the course of the struggle. Suffice it t that after much blood had been shed on both sid a war of more than half a century's duration, which the disputed territory, by being the co battle-field, was devastated by both, the conte parties at last drew stakes, and it was erected i independent state in 1829. It is equally distingu for fertility of soil, salubrity of climate, natural b and geographical position. It abounds in exc pastures, which are fertilised by an unusually number of streams, in which respect it is greatly rior to the rival provinces on the opposite banks

o de la Plata. The city of Monte Video, the capital the republic, is situated on the northern bank of the at river just named, near its mouth, 120 miles north- t from Buenos Ayres, in latitude 34° 50′ south, and gitude 56° 20′ west. The importance of this city greatly increased since the erection of the coun- into an independent republic. A lowering of the ties on import trade, whilst those of Buenos Ayres ained high, brought foreign goods to it, so that it has some measure supplanted its rival, and become an trepôt for the supply of the neighbouring provinces. This is the cause of the diminution in the amount of imports into Buenos Ayres, to which allusion has already been made. In 1836, the importations of foreign goods into Monte Video amounted to 3,500,000 dollars, whilst the exports were nearly equal in value, and now constitute an important proportion of the returns in the general account of the trade with the river Plata. The population of the Banda Oriental is estimated by Sir Woodbine Parish (1839) to be from 100,000 to 120,000 souls, and is rapidly increasing.



CHILI.

Chili is bounded on the north by La Plata, on the east and south by Patagonia, from which it is separated by the Andes, and on the west by the Pacific Ocean, along the shores of which it stretches from 21° to 43° of south latitude. It is 1300 miles long, and from 30 to 120 broad. The ground ascends gradually from the ocean to the Andes, but is intersected by their projecting branches, some of which run almost down to the sea-shore. There is no deficiency of rivers in Chili, but in general they are small, and running from the Cordillera to the Pacific, they have necessarily short courses. These streams are indispensable to the existence of agriculture, in a country where it rains very seldom, and to a very limited extent. The fertility of the soil of Chili has in many respects been much overrated. It presents great diversities. In some parts where irrigation is deficient, it is barren and unproductive; in others quite the reverse; and amid splendid woodlands, the finest crops of wheat, barley, rye, and other species of grain, are raised, with scarcely any trouble to the cultivator beyond scattering the seed. Cotton, sugar-cane, vines, &c., are also extensively cultivated. The country is perfectly free of all noxious reptiles, the climate salubrious, and the weather serene. The want of navigable rivers is unfavourable to commerce; and although there are many rich mines of gold, silver, and copper, in the northern provinces, the sterility of the country around them prevents many of them from being wrought.

In 1827, the directorship of Chili was changed into a presidency, in imitation of the United States. The established religion is the Roman Catholic, the priesthood not being numerous, as was the case prior to the revolution. The constitution of Chili is that of a federal republic, consisting of three states, namely, Coquimbo, Santiago, and Conception, and one district, Chiloe, each having a provincial assembly, and all four a common congress, or executive power, which holds its sittings at Santiago.

Chili is divided into eight provinces, which contain a population of about 600,000. The principal towns are Santiago, with 65,675 inhabitants; Valparaiso, with 26,000; Conception, with 10,500; and there are, besides, Penco, Coquimbo, Copiapo, and others of inferior note. In 1836, the outlay of the state was reckoned at 1,840,204 dollars, the receipts being above 300,000 dollars more, which served to pay the interest of the English loan, or, at all events, a part of it; for their affairs are in great confusion, and their debts are so mixed up with those of Peru, that it is difficult to determine how they stand. By allowing the interest of their loan to remain for years unpaid, the debt has accumulated in such a manner as to have destroyed national credit. The perpetual broils with Peru have materially contributed to retard the advancement of this country, which has certainly very considerable resources, and an enterprising and intelligent population. To enter into particulars regarding this long-standing quarrel, is not compatible with our limits. It originated in a loan which Chili gave to Peru, to assist her in the period of her distress, and which the latter has not been grateful or honest enough to refund. Peace and war have more than once been proclaimed between the two states within these few years, and so late as 1839 the army of Peru was, through treachery, it is said, nearly extirpated by the troops of Chili.—See PERU.

During the year 1834, there was exported from Chili, gold, silver, and copper, to the amount of 3,158,143 dollars. The other chief articles of export are hides, timber, wheat, flour, fruits, Cortex Peruvianus, indigo, tin, and seal-skins. The imports into Chili from Great Britain, chiefly of manufactured goods, amounted in 1835 to £606,176. The native manufactures of Chili are insignificant. A great number of islands stretch along the coast, and belong to this republic, but they are too *small and unimportant* to require special notice in this *place*. *Valparaiso* is the great port of Chili into which all foreign goods enter. In 1835, about 400 ves delivered their cargoes.

PERU.

Ever since the declaration of independence, P been a scene of political squabbling and chan the details of which we need not enter. In 18 country was divided into North Peru and Sout the chief power being vested in a supreme pr and a close intimacy was then entered into w neighbouring republic of Bolivia. The cons established by a congress of the three confe states of North and South Peru, and Bolivia, is n upon that of the United States of North Americ of the three republics was to have its own distri gress, and, collectively, they may be said to have a federal republic, united to one another for support and protection. The head of the confe was chosen by the general congress, out of six dates proposed by the three republics. The firs appointed to the protectorship of the Peruvio-B confederation was General Santa Cruz, who t tually became the head of three independent He was elected for ten years. With regard to t stitution of each republic, little appears to ha agreed to besides the general principle that the ment of the countries should be entrusted to and house of representatives.

We have already alluded to the declarations which have passed between Peru and Chili. ties do not appear to have yet terminated, a infant states, instead of bending their energies developement of the resources of the country, a ing each other to pieces by the bloody and eve game of war. A squadron from Chili took th Lima, in August 1838, after an action in whi men were killed. Santa Cruz immediately a upon the city, but in the mean time the Chili evacuated it, and penetrated farther into the They were followed by the Bolivian chief with siderable army, but, in January 1839, he allow self to be surprised, when nearly his whole troo either killed or taken prisoners. Santa Cruz so published a proclamation, by which he abdica protectoral authority over Peru; and, by another he resigned the presidency of Bolivia. It were speculate how matters will terminate; but in a hood Bolivia will remain a separate state, and and South Peru will again amalgamate and fo republic.

The boundaries of North and South Peru ar so imperfectly defined, that in our description region we shall consider them as forming one Indeed, it is very probable, as we have said, th will soon again be united as formerly. Peru from 3 degrees 34 minutes to about 22 degrees latitude, and from 62 degrees to 82 degrees longitude. Its length is computed at 1500 mi its coast line on the Pacific Ocean cannot be le 2100, reckoning the bendings of the shore. Ac to Humboldt's estimate, Peru comprises an 45,500 square leagues. The surface of this va tory is of the boldest and most varied descripti is naturally divided into three regions, Western situated to the west of the Andes; Eastern Pe ated to the east of that mountain chain; and the Andes, which comprises the mountainous Western Peru is a belt or zone of sand near miles in length, and having an average bre thirty or forty miles. No rain falls through whole of this desolate Sahara of the west, and tion only springs up on the banks of the river run from the Andes to the Pacific. The h parts of Western Peru, therefore, are merely of oases "islanded amid the waste of sand," li of Africa. Yet here are situated the city of L several other large towns, the only sea-ports o public. Peru of the Andes, as might be inferr its varied elevation above the level of the s

ents a great diversity of soil, climate, and vegetation. uffice it to say, that in different parts it exhibits every pecies of production, from the dwarf plants of Lapland hich clothe the lofty mountain tops, to the aromatic pecies of Sumatra, which shed their odours at its base. his portion of Peru contains the sources of those vast ivers which traverse the whole continent of South merica, and are the greatest on the face of the globe. ut by far the largest, most beautiful, and most valu- ble part of the Peruvian territory, lies to the east of e Andes, commencing on the eastern declivity of the econd chain, and stretching to the confines of Brazil. n this vast region, a thousand sources of wealth lie uried, for the greater part of it may be said to be yet nknown, although the riches which it contains are mmense. In fertility, luxuriance, and variety of vege- tion, it rivals Brazil, and the world does not present s with any higher standard of comparison. Every sort f production which springs from the ground may be ised in one part of Peru or another in the amplest undance. Its mineral treasures are gold, silver, latina, tin, copper, lead, quicksilver, precious stones, lt, alum, saltpetre, coal, sulphur, and others. The ost valuable of these are in great plenty.

Peru carries on considerable trade with Great Bri- in, the United States, France, the kindred repub- cs of South America, and other places. A treaty of mity, commerce, and navigation, with Great Britain, as signed at Lima on the 5th of June, 1837; by which mpetual freedom of trade was established with the untries of the Peruvio-Bolivian confederation. The ief articles of export are gold and silver, Peruvian rk, hides, nitre, sugar (unrefined), cotton, and sheeps' ol, tin, molasses, pot and pearl ashes, &c. The im- rts into Peru from Great Britain, chiefly of manu- tured goods, amounted, in 1833, to £387,524. In 34, the imports fell, on account of political agitations, t they have since risen, and on an average of years e steadily increasing. In 1835, they amounted to 41,324. The exports to the United States, in 1835, ounted to 1,118,278 dollars; those to France and her places were likewise considerable. The present venue of Peru has been estimated at £1,250,000; the penditure at a little less than that sum; and the tional debt at £6,000,000. But precise information these points is not to be obtained. There is a stand- g army of 3000 men maintained in Peru, and 2000 Bolivia, according to the articles of confederation. e religion of the republic is the Roman Catholic, no her being tolerated. Slavery has been long abolished ; but the state of the country in regard to edu- n and morals, is still very low. The total popu- n of Peru in 1838, was estimated at 1,700,000, sisting of three original castes—Spaniards, Indians, Negroes, and all their possible combinations. Lima, capital, which was formerly the grand entrepôt for trade of all the west coast of South America, con- s a population of 70,000. All the trade is carried at Callao, which, although six miles distant, is the rt of Lima. The next most important place is Cuzco, chief town of the interior, and the ancient capital the incas. Here are some magnificent remains of former riches and splendour of Peru, particularly Temple of the Sun, the wealth of which, when first iled by the Spaniards, was almost incalculable. The membrance of the ancient heathen worship is still served by an honorary institution, called the "Order the Sun." Besides Lima and Cusco, the next largest wn is the maritime port of Arequipa, which has been x times destroyed by eruptions from a neighbouring untain, and yet possessed a population of 40,000, vious to the revolution. There are also a great ny other towns of minor importance. Earthquakes e frequent in Peru. The city of Lima has been three es almost entirely destroyed by these visitations— 1687, 1746, and 1828.

BOLIVIA.

After independence was established in 1825, this portion of the ancient viceroyalty of Buenos Ayres received the name which it now bears, conferred in honour of the liberator, General Bolivar. A constitution, drawn up chiefly by Bolivar, and called the Bolivian Code, was immediately introduced, and for two years the republic was tranquil under the presidency of General Sucre. But when the great *libertador* became unpopular in his own country, and those troubles arose which darkened the close of his career, his constitution was rejected from Bolivia, the president was deposed, and Santa Cruz was elevated to the dignity. The present position of this republic we have already spoken of under Peru.

Bolivia is bounded on the north by Peru and Brazil, on the east by Brazil, on the south by the Buenos Ayrean provinces and Chili, and on the west by the Pacific Ocean and Peru. It comprehends a space of 480,000 square miles, and the population is estimated at 1,200,000, of whom probably two-thirds are Indians. This republic includes five of the provinces which were formerly under the Buenos Ayrean viceroyalty, but has been divided by the new government into six departments, namely, Potosi, Chuquisaca, La Paz, Santa Cruz, Cochabamba, and Oruro. The greater part of Bolivia is situated at a very high elevation, but towards the east it stretches down in extensive plains towards Brazil. The climate, therefore, is extremely various. On the high parts, snow-storms and hurricanes frequently prevail, and the plains, from the rigour of the weather, are nearly destitute of vegetation. The climate of Potosi, at an average elevation of 13,400 feet, is so changeable, that it frequently exhibits in one day all the vicissitudes of the four seasons of the year. Thence descending through the regions of Oruro, at an elevation of 12,400 feet, La Paz at 12,100, Chuquisaca at 9300, Cochabamba at 8400, down to the plains of Majos and Chiquitos, all the known degrees of temperature, from extreme cold to extreme heat, are experienced. This elevated region is enriched with the most valuable mines of gold and silver, which, with other precious metals, form the only articles of Bolivian commerce. The mountain of Illumini, in La Paz, which is supposed to contain rich veins of gold ore, is 24,000 feet above the level of the sea. From the great difficulty of working the mines, and the expense of extracting the ore, the greater part of the gold of Bolivia is obtained from the *lavaderos*, or gold washings in the beds of rivulets, where it is found in the shape of grains. The most productive of these *lavaderos* are those of Tipuani, in the province of Larecaja. Silver, however, is the great staple metallic production of Bolivia; and the famous mountain of Potosi is ranked next in importance to the mines of Guanaxuata in Mexico. On account of the inconsiderable nature of the rivers flowing from Bolivia to the Pacific, and the badness of the roads, it is impossible this country can enjoy much commerce with the Pacific; but towards the east, several large streams communicate with the great navigable rivers that flow into the Atlantic Ocean. The river Paro, or Beni, which rises near La Paz, and the Guapey, which rises near Cochabamba, after a long sweep, unite with the Mamori, and, flowing to the north-east, mingle with the waters of the Maranon or Amazon. The Picomayo, again, which rises near Potosi and Chuquisaca, and the Vermejo, which rises in the valley of Tareja, flow to the south-east, and mingle with the Paraguay, the upper part of the mighty Rio de La Plata. All these rivers are navigable almost to their source, and, with steam navigation, would open up a direct communication between these rich districts and the nations of Europe.

The table land of Titicaca is the most elevated on the globe, with the exception of that of Thibet; but while the latter only presents pastures and flocks of sheep, the former exhibits towns and populous cities, and is covered with fine crops of wheat, barley, rye, &c. The lake of Titicaca is 12,700 feet above the level of the sea, and is twenty times the size of the lake of Geneva. It contains several islands, the largest of which, named Titicaca, is the place whence Manco Capac, and his

wife Manco Oello Huaco, were represented by Peruvian tradition to have come forth to found the empire of the incas, and spread civilisation, industry, and good government through the nations. A magnificent and gorgeous Temple of the Sun was afterwards erected here, the whole ornaments and wealth of which are said to have been thrown into the lake, to prevent their falling into the hands of the Spaniards.

COLOMBIA, OR THE REPUBLICS OF VENEZUELA, NEW GRANADA, AND QUITO.

For three years after the establishment of independence in Colombia, the country remained tranquil, Santander being vice-president, and exercising executive power in Bolivar's absence. The Peruvians had elected the latter president for life, and adopted his celebrated code; but as he belonged to Colombia, and as symptoms of rebellion had become apparent in that country, he resolved on relinquishing all the honours which the Peruvians were desirous of conferring on him, and returning to his native country. He arrived towards the close of 1826, from which period till his death in 1830, Colombia was a scene of turmoil and bloodshed. The person who played the most conspicuous part in this tumultuous drama, besides Bolivar himself, was General Paez, who had been appointed to the command of Venezuela. He gave great offence by his arbitrary conduct, was impeached, but refused to make his appearance. Immediately thereafter, he placed himself at the head of a strong party opposed to the central system, and desirous of a separation from New Granada. Bolivar succeeded in quelling this insurrection of the north-eastern provinces, but the violence of parties again broke forth in 1828. The events which followed finally resulted in Bolivar's assuming absolute authority; from which period his popularity declined. Plots were formed to assassinate him, but all these attempts ended in the destruction of the projectors, and in Bolivar's exercising, probably to an unwarrantable extent, the absolute power which had been entrusted to him. In 1829, war was declared against Colombia by Peru. The causes of this are partly to be attributed to personal animosity, partly to national jealousy, partly to a desire to get possession of Guayaquil, one of the principal ports of the Colombian territory. The armies met at Tarqui, in Quito, when a sanguinary conflict took place, in which the Peruvians were defeated; and this, along with other circumstances, for a time raised the hopes of Bolivar and his friends. The great cause of difference between the dictator and the people was the Bolivian code or constitution, which did not, it was asserted, allow enough of liberty to the subject, the country being eminently republican and democratic in its views. The fact is, the people had become intoxicated with their freedom, and nothing short of licentiousness would satisfy them. But a civil war was prevented by the death of Bolivar, which took place on the 17th of December 1830. As soon as this event became known, the three component states of Colombia peaceably agreed to become independent of one another. The limits of these states are nearly the same as they were when each was a separate province subject to Spain. Their constitutions are based on the most liberal republican principles, and they are leagued together for mutual support against foreign aggression. The national debt of Colombia was equally divided amongst the three states in December 1834; slavery was for ever abolished in all of them; and, upon the whole, they are likely to go on much more peaceably and rationally apart, than if they were united under one head. We shall give a brief description of each state.

NEW GRENADA.

This republic is bounded on the north by the Caribbean Sea and Guatemala; on the east by Venezuela and Guiana; on the south by the Amazon and Quito; and on the west by the Pacific Ocean. The great chain of the Andes traverses this country, and the mountains are extremely rich in gold and silver; and there are also mines of platina, copper, lead, and emeralds. The value of gold and silver produced annually is stated at £650,000. It is divided into five districts and thirteen provinces, the united population of which, according to the census of 1835, amounts to 1,687,109; or, on account of errors, 1,700,000. Santa Fe de Rogota is the capital of the republic; it has a population of about 40,000. Here a national academy was opened in 1833. In 1833, the income amounted to 2,337,836 dollars, and the expenditure to 2,211,554 dollars; leaving a balance of 126,282 dollars for payment of the interest of the national debt. The share which fell to New Granada was above £3,000,000. The principal articles of export are cacoa, indigo, tobacco, coffee, hides, and cattle. The imports are manufactured goods of almost every description. What the value of these may be, it is impossible to say, for the contraband trade has been here carried on to an almost unparalleled extent.

VENEZUELA.

This state extends from the republic of Quito or the Equator to 12 degrees of north latitude, and from 60 degrees to 71 degrees 36 minutes of west longitude. On the north and east it is washed by the Atlantic Ocean, and has a number of good ports. The most remarkable feature of the country is the great river Orinoco. It is also traversed by the Andes; and the great lakes of Maracaybo and Valencia belong to its territory. The northern part is mountainous; but in the south, on the banks of the Orinoco, are immense planes, called *llanos*, the climate of which is hot, and in some parts unhealthy. The year is completely divided into the rainy and the dry seasons; the former commencing in November and ending in April. The productions are sugar, coffee, indigo, cotton, and tobacco. The plains on the Orinoco furnish extensive pastures, which support numerous herds of cattle. Venezuela is partitioned into four departments, and further divided into twelve provinces, which contain in all a population of 829,000. The budget for 1838 was estimated at 1,763,649 piastres. According to the division of the national debt already noticed, £1,941,705 fell to the share of Venezuela. The patronage of the church has been taken from the archbishop of Caracas, and is now in the hands of the president. Tithes are abolished, the clergy being paid by the state. Monastic institutions and missions have been done away with, their income and possessions being applied to the uses of the National College established at Maracaybo for public instruction. The principal towns of Venezuela are Caracas, with a population of probably 40,000; Cumana, a sea-port, with 25,000 inhabitants; Varinas, with 12,000; and Maracaybo, situated on the margin of the great lake of the same name, which has 25,000 inhabitants. The cultivation of the soil and the rearing of cattle, are the great objects of industry in this republic. With the overplus of these, the inhabitants obtain the manufactures of Europe. The chief articles of export are cocoa, coffee, sugar, tobacco, cotton, hides, dye-woods, sarsaparilla, Peruvian bark, balsam, indigo, furs, &c. The imports are for the most part the fabrics of England and France. It is difficult to state with certainty what the exports and imports may amount to respectively, but the former may be estimated at 2,000,000, and the latter at 4,000,000 of piastres. (A piastre is equal to 4s. 3¾d. sterling.)

EQUATOR, OR QUITO.

The territory of the Equator comprehends the ancient presidency of Quito, extending from 2 degrees of north to 6 degrees of south latitude, and from 76 degrees 30 minutes to 80 degrees 40 minutes of west longitude. On the south it borders on Peru and Brazil, the latter country forming also its eastern boundary; on the north its limits are New Granada, and it is washed by the Pacific Ocean on the west. This republic is intersected by both chains of the Andes, and consequently presents great diversity of surface and climate.

very thing done to promote education and indus-
In 1815, also, Brazil was created an independent
although annexed to the crown of Portugal. In
some democratic insurrections broke out in Per-
nco; and although suppressed, discontent still
ued, until in 1821 it was announced that the
guese constitution was to be conferred on Brazil.
e this, however, King Joam had sailed for Por-
, promising at his departure increased pay to all
ficers and soldiers. But when he was gone, it was
he had carried off every farthing that was in the
ury, having also raised immense sums by means of
ury bills. The public indignation at this discovery,
her with the suspicion that he intended again to
e Brazil to the condition of a vice-royalty, occa-
d a general call for his son Don Pedro, who had
left as regent, to become the head of the govern-
as an independent state. This he readily complied
In 1822, he was proclaimed emperor; and in
his title and the independence of Brazil were ac-
ledged by his father. Then followed the war with
os Ayres respecting the Banda Oriental, which, at
rmination in 1828, left the country destitute of all
ney but paper. This excited much discontent,
t the same time, the abolition of the Portuguese
itution by Miguel excited the suspicions of the
ilians that that event was only the prelude to a
ar occurrence in Brazil; nor did the language and
rtment of Pedro tend at all to allay their fears. In
1830, the nation had become divided into consti-
nalists (Brazilians) and absolutists (Portuguese);
n attempt having failed to induce the troops to
re the emperor absolute, he to all appearance
d the constitutionalists. His measures and con-
however, continued so equivocal, that, in March
, manifestations of popular excitement broke out.
extreme rigour he exercised on this occasion, and
ubsequent vacillation, increased and incensed his
ies more and more; and in the April following,
rbances broke out in which many persons were
l. Pedro immediately announced a change of mi-
y; the public remonstrated against this, but he
ined resolute; an insurrection, in which the troops
d, was the consequence; and next morning Pedro
ated in favour of his infant son, Pedro II., and
rked from Rio Janeiro, on board an English ship
ar, carrying with him an immense treasure in dia-
ds and jewels. A permanent regency was appointed
anage the government during the minority of the
ror; but political storms have not ceased to "lower
this house." Insurrections are by no means un-
non in Brazil; some recent inroads of the Indian
s have been attended with much loss of life and
erty. The city of Para was taken in 1836, but
wards evacuated. Bahia was likewise captured by
el army of Indians and others, but wrested from
by the imperial troops with a great loss on both
. This event occurred so late as March 1838. A
us insurrection has recently broken out in the pro-
e of Rio Grande. The imperial troops were repeat-
defeated, and that portion of the country has
ared its independence. That this will be main-
d, is quite uncertain.

o describe minutely the physical characteristics of
ast a region as that of Brazil, would carry us far
nd our limits. Generally speaking, there is not
he globe a finer country, one blessed with a more
al climate, or a more fertile soil; more happily
rsified with wood and water, or with abundance of
gable rivers; or more famed for its produce of
and diamonds. Nearly the whole of the most
ly valued productions of the earth are raised within
erritory. The land rises by gentle gradations from
shore to the interior, to the height of from three
ix thousand feet above the level of the sea. At
elevation within the tropics, the climate is tempe-
, and European fruits and grains are raised in
dance. The intervening valleys have a warmer
perature, and consequently are extremely favour-

tains are in some parts covered with forests, high and abrupt in appearance, and difficult of access. On the other side the hills rise with a gentle acclivity, and are separated from each other by vales, the vegetation of which is described as extremely beautiful. The view of the island from the sea has been long celebrated for its splendour; the mountains sometimes appearing above the clouds, and studded with forests. The great savannahs or plains are covered with the most beautiful pasture, woods, and all the magnificent vegetation of the tropics. The mountains in some parts reach a great height; Blue Mountain Peak being 7770 feet above the level of the sea; Portland Gap Ridge 6501; Catherine's Peak 4970; and others of a lesser elevation. Some authorities assert, that at the eastern part of the island, three peaks of the grand ridge of the Blue Mountains reach the heights of 8184, 7656, and 7576 feet above the level of the sea. The mountains are generally of a conical form, very steep, and approaching on the north side very near to the sea. The deep ravines between the lofty mountains are densely covered with woods, and are denominated cockpits. These offer a striking contrast to the lower mountains, where the coffee-plant, pimento, cotton, &c., are cultivated. On the south side, the mountains are situated a little distant from the sea, leaving plains of about twelve miles wide.

There are numerous rivers in Jamaica, two hundred of which have been enumerated; but none, owing to the irregular nature of the country, are navigable for vessels of any burden. Black river is the largest; and running through a flat country, is navigable for vessels of small tonnage for about thirty miles. The only other rivers of any note are the Rio Cobre and Rio Minho on the south; and the Marthabrae, White, Ginger, and Great River on the north side. These rivers are extremely valuable in the cultivation of the soil, the great height from which the water runs allowing it to be carried a considerable length in irrigating the country, and turning mills upon plantations. The rapidity of the current also prevents it from stagnating; and thus it is kept pure for animals to drink, from its source to the ocean. There are numerous springs and rivulets throughout the country, several of which are of a medicinal nature. Two sulphureous springs, one hot and the other cold, are very celebrated, and exceedingly beneficial in cutaneous diseases. There are sixteen principal harbours, which afford secure havens for shipping, and thirty bays or roads with good anchorage.

The soil of the country is generally deep and fertile, presenting a shining appearance to the eye when first turned up. In some parts it is of a chocolate colour, in others a bright yellow, and even scarlet. The best soil for cultivation is what is termed the brick mould, which is of great depth, so rich as to require no manure, and of a quality which seems well suited for the climate. It is so far retentive, that in dry weather it retains enough of moisture for the preservation of the plants, and so porous as to admit of the superfluous water sinking through it during heavy rains. This soil is composed of clay, sand, and black mould, and is thought the best soil in the island for the cultivation of the sugar-cane. The next soil in point of fertility is the black shell mould; and there are many varieties throughout the island, all more or less fitted for cultivation. Silver and gold mica frequently occur in the soil, and the latter is sometimes mistaken for gold dust. No gold has ever been discovered, however, although it is certain that the natives were possessed of plenty when the Spaniards first visited the island. A rich lead ore is found in some parts of the country, which is impregnated with silver. This ore is worked at Liguana; and varieties of copper, striated antimony, and iron-stone, have also been obtained in some parts of the island. White freestone, quartz, limestone, and a species of bastard marble, also occur in considerable quantities.

Jamaica is divided into three counties, Middlesex, Surrey, and Cornwall. Middlesex is divided into nine parishes, Surrey into seven, and Cornwall into five. The seat of government is Spanish Town, in the co Middlesex, situated at the extremity of an ex plain. The mountains closely approach the to the river Cobre runs past it, at the distance of quarter of a mile. The town is not large, but th ings are very magnificent, being built in the Spanish architecture. The finest building is th nor's residence, called King's House, which one whole side of a quadrangle. Kingston is important town in the island, and is generally c as the capital, although not nominally so. It i upon a gentle inclined plain, which is enclos north by the Liguana ridge of mountains. Th tains form a sort of semicircle, and the plain down to the harbour, which is amongst the fi world. It affords excellent anchorage all r the largest merchant ships can ride close in sl harbour is defended by numerous batteries, a sidered perfectly unassailable from the sea. T of Kingston are built with the greatest somewhat in the style of the New Town of E The houses are principally of wood, and, two storeys high, with verandas above and b English and Scotch churches are very elegant particularly the former. It contains about habitants, of whom 12,000 are whites, an people of colour. There are excellent m butcher meat, fish, and vegetables of every d On a plain at the top of the declivity on whic is situated, stands a fine range of barracks, Park Camp. This camp is situated about tw feet above the level of the sea, and is capable modating upwards of twelve hundred men. an excellent hospital attached to the barra bath, which, only four feet deep, is capable ing 70,000 gallons of running water. Mon situated on the opposite side of the island fr ton, is a seaport of some importance. It foot of a range of mountains which nearly the town, and possesses a neat church and co barracks. Falmouth is situated about fifteen of Montego, and is rising rapidly to importa harbour in the inside is deep and well shel the entrance is intricate, and not more than feet deep across the bar. The town is built o side of the harbour, and possesses several g offices, a free school, and commodious barrac is more produce shipped from this port than other in the island after Kingston. Savanna is a fine healthy military station, situated moreland parish. The town is built upon t the harbour of which is good, and the bar situated about a mile from the town, in the highly cultivated country.

The government of Jamaica consists of a a council of twelve, and a house of assem governor has the chief civil and military auth he holds his appointment from the home gov The members of the council are selected from the justices of the peace by the queen; the li governor, attorney-general, and bishop, being by right of the offices they hold. The house bly consists of forty-five members, two being each parish, and one additional from each of of Kingston, Spanish Town, and Port Royal. also a supreme court, an assize court, a cour mon pleas, which sit at stated times for the pu of crime. The military force of the island c about three thousand regular troops, some of people of colour; and the militia force, which to from sixteen to eighteen thousand men. males, from the age of fifteen to sixty, are enlist in the militia service, and no substi allowed.

II.—TRINIDAD.

This island, the next in importance to Ja the British West India possessions, is favour ated at the mouths of the large river Orinoco.

was declared; in others, more gradually. In some
s, as in the Brazils and Guiana, slavery still exists;
the spirit of all the various governments is favour-
to manumission, and universal freedom seems to
matter neither improbable nor distant. The uniform
blishment of the Roman Catholic religion through-
all the states, has also, no doubt, contributed much
roduce a community of feeling and sentiment among
lasses of the population, all being alike—negro as
as white—members of the church. The events of
revolution were naturally accompanied with feel-
of jealousy respecting all the original institutions
oduced by the Spaniards, religious as well as civil;
in the matter of religion, the odium seems to have
n not on the church, but on the priesthood. This
more especially the case in the commercial cities,
lmost all of which an complete an overturn and
iation took place among the rich and indolent esta-
lments of monks and friars, as during the period
e reformation in Scotland.

enerally speaking, the natives of South America
a much more active and industrious race of men
the creoles of other tropical countries. The Spa-
custom of the *siesta*, or noon-sleep, is universally
ralent; but both before and after that period of
se, they are actively engaged either in transacting
ness, or in giving and receiving visits, attending
lic exhibitions, promenading, making short journeys
leasure, &c. As amongst the whites in the West
ies, universal hospitality prevails, every man's house
g a home to the traveller; and this is the more
ssary from the scarcity and bad provisions of the
. The manners of the inn-keepers and their ser-
ts resemble those in the United States, where both
down at table, and converse familiarly with their
omers. The staple dish throughout South America,
at inns and in private houses, is the *olla*, consisting
oiled or stewed beef, covered with *friolas* and other
etables. In these places of refreshment, too, tra-
ers of all ranks and characters dine at the same
rd, and take their siesta in the same room, upon
s spread down for the purpose. Travellers of
pectability generally endeavour, however, to stop at
houses of proprietors near the wayside, who live in
yle of wealthy ease and luxury.

he Spanish amusement of bull-baiting is pursued
great avidity by the South Americans. But per-
s a more demoralising and pernicious amusement
he besetting vice of gambling, in which all classes
he towns indulge to a great extent. The method
atching the wild cattle that rove in immense herds
r the *pampas*, is a practice altogether peculiar to the
th Americans. The instrument used is called a lasso,
n the Spanish *laso*, signifying slip-knot or noose, and
operation of using it is called lassoing. It consists
rope made of strips of untanned hide, varying in
gth from fifteen to twenty yards, and is about as thick
he little finger. It has a noose or running-knot at
end, the other extremity being fastened by an eye
button to a ring in a strong hide-belt or surcingle,
nd tightly round the horse. The coil is grasped by
horseman's left hand, while the noose, which is held
he right, trails along the ground, except when in use,
then it is whirled round the head with considerable
city, during which, by a peculiar turn of the wrist,
made to assume a circular form; so that, when
vered from the hand, the noose preserves itself open
it falls over the object at which it has been aimed.

Wild horses are captured with what is called, in the
guage of the Gaucho, "las bolas," or balls—a most
midable weapon in the hands of him who knows how
se it. It consists of three thongs or cords of hide,
h more than a yard long, having balls attached to
extremities. The "boleador," or he who is going
ling the balls, takes one ball in his hand, and swing-
the others rapidly round his head, throws "las
as" with all his might, and unerring certainty,
nd the hind legs of his victim, which immediately
es to the ground.

V.—ST VINCENT AND ITS DEPENDENCIES.

This is thought the most beautiful of the Carribean islands; it was discovered by Columbus in 1498. It is about twenty-four miles long and twenty broad; fifty-five miles west of Barbadoes, and about the same distance from Grenada. This island was first settled by the French; captured by the British, and retaken; but finally ceded to this country in 1783. Its character is decidedly volcanic, traces of strata which have undergone the action of fire being every where visible. The mountains are high and sharp at the top, running from north to south, with deep valleys between. The soil is of a strong loam in the valleys, but assumes a more sandy nature on the hilly ground. In 1812, St Vincent was visited by a severe volcanic eruption, the matter from which nearly covered the whole surface of the island; some particles even reached Barbadoes; and the noise was heard for three hundred miles. The damage done to the island was not great, but fifty persons lost their lives on the occasion. The island is divided into five parishes, of which the principal is St George, in which the capital, Kingston, is situated. The houses of the town are built of stone in the lower storeys and wood in the upper; and there are many commodious public buildings, but none of them of any great elegance. There is a famous botanic garden about one mile from Kingston, occupying about thirty acres of ground, and containing a fine collection of tropical plants. The most celebrated object in this island is the Souffriere, a volcano, the crater of which is three miles in circumference, and five hundred feet in depth. The climate is thought very healthy; but hurricanes are frequent, and sometimes very destructive. This island is governed much in the same manner as Grenada. There are eight small islands adjoining to St Vincent, which are cultivated; but they are not of such importance as to warrant particular mention.

VI.—BARBADOES.

This is the most easterly of the Carribean islands, and was the first settlement made by the British in the West Indies. It is about twenty-two miles in length and fourteen in breadth, containing an area of 106,470 acres. The period of the discovery of this island is unknown, the first mention made of it being in 1600. It was colonised by the British in 1625, Charles I. having made a grant of it to the Earl of Carlisle, who encouraged emigration to the island. A society of London merchants accepted of 10,000 acres on certain conditions, and sent out a governor of their own. After this the settlers increased very rapidly; and in 1650 it was computed that there were upwards of twenty thousand British in the island. During the Commonwealth, an armament was fitted out by Cromwell against Barbadoes, for adhering to the royal cause, which committed great depredations against the inhabitants; and since this time the population has rather decreased. The island is generally level, except in the north-east quarter, and here, in some parts, the hills reach the height of 1100 feet. It has a beautiful appearance, from the land being well cultivated and the vegetation luxuriant. The soil is good, varying from a rich deep mould to a light sand, and a red clay of considerable depth is occasionally found. There are a number of springs in the island, one of which casts up a bituminous matter called Barbadoes tar, and another emits a stream of sulphuretted hydrogen gas, which can be ignited. Oxen, horses, and other cattle, are plentiful, the first being most generally used for labour. Considerable numbers of hogs and poultry are reared; and, indeed, this island is distinguished from most of the West India colonies by the quantity of provisions which are raised, the inhabitants depending little upon foreign supplies. Plovers, curlews, wild-duck, teal, and other water game, frequent the coast in great numbers, and *afford an agreeable article of food.*

Barbadoes is divided into five districts and eleven *parishes, and contains* four towns. Bridgetown, the capital, is situated on the shores of Carlisle Bay contains about twenty thousand houses. The t well laid out, many of the houses are very hand and spacious barracks occupy the southern extr The climate is considered healthy, but would fe tremely hot were it not for the constant trade- The island is subject to hurricanes, one of wh 1780, laid waste its whole extent. The loss o on this melancholy occasion was estimated at thousand, and property valued at upwards of a m was destroyed. The island is ruled by a gover council, and house of representatives. The pow the governor are entirely negative, he being on titled to recommend measures to the assembly, they may either adopt or reject. Barbadoes see have reached the height of its prosperity at the the seventeenth century, and since that time the lation has in some measure decreased. In 167 white population was estimated at 50,000, and the at 100,000, while at present the whole populatio not exceed 90,000.

VII.—ST LUCIA.

This island is situated in latitude 13° 50′ nort longitude 60° 58′ west. It is about thirty-two long and twelve broad. The English were the fir made a settlement in this island, but the colonists completely destroyed by the natives. It was settled, and since that time has passed repeatedly the British to the French, until 1803, when it wa tured by the British, in whose possession it has since remained. This island is traversed longitudi or from north to south, by a ridge of lofty moun which terminate in most fantastic sharp points. mountains are densely wooded, and at times, from t traction of the trees, are completely enveloped in a The approach to the island from the south is ve markable. Two rocks, called the Sugar-Loaves perpendicularly out of the sea, tapering away to the summit. These rocks are covered with vege and stand at each side of the entrance to a bea bay. On the west coast, there is an excellent ha called the Little Careenage, which, admitting on ship at a time, is capable of containing thirty sh the line. The island is divided into Basseterr low or leeward country, which is the best cult district, and Capisterre, the high country. B these districts are considered unhealthy, the first the abundance of stagnant water, and the other the denseness of the woods. As cultivation pro however, these causes will be removed, and the rendered as healthy as any in its neighbourhood. capital is Castries, which is the only town in the i and a place of no importance. There is a small called Pigeon Island, about six miles from St which is considered a healthy and important m station; and there is excellent anchorage grou tween it and St Lucia.

VIII.—DOMINICA.

This island is situated between the French c of Martinique and Guadaloupe, in 15° 25′ north la and 61° 15′ west longitude. It is about twent miles in length and sixteen in breadth, containing 186,436 acres. It was considered a neutral islan 1759, when it was taken possession of by the E with whom, after being repeatedly taken and re the island still remains. Dominica is of volcanic and has many lofty mountains, the highest of wh 5314 feet above the sea's level. Several of these tains contain active volcanoes, which frequent charge vast quantities of burning sulphur; and th many hot water springs throughout the island. valleys are fertile, well watered with thirty fine and numerous smaller streams. The trees are affording the finest timber, such as locust-wood wood, mastic, iron-wood, cinnamon, bastard mah and a gum tree of considerable value. The fer

the island is not subjected to either heavy dews or ere hurricanes, like most of the other islands. An- a is ruled by a governor, who is also commander- chief over Montserrat, Barbuda, Anguilla, St Chris- her's, Nevis, the Virgin Islands, and Dominica; with gislative council, and house of assembly. There are teen free schools in the island, which afford instruc- n to 1216 scholars; and religious instruction is admi- tered with great care by all sects. Antigua was the t island to ameliorate the slave laws, by affording the used the benefit of trial by jury; and an act of as- bly, 15th February 1834, decreed the emancipation every slave, without requiring the period of appren- ship prescribed by parliament.

XI.—ST CHRISTOPHER'S OR ST KITT'S.

This island, situated in latitude 17° 10' and longitude ° 40', is seventy-two miles in circumference, and con- ns sixty-eight square miles. It was discovered by lumbus, who is said to have given it his own name; d it was first settled by an Englishman of the name Warner and fourteen associates. Warner found veral Frenchmen already on the island; and these o parties, after making war upon the natives, divided island between them, one part, called Capisterre, or h country, being assigned to the French, and the er part, called Basseterre, or low country, given to English. Many bloody battles were fought between se two parties until 1713, when the whole island was ded to Britain. St Christopher's is of an irregular long shape, divided from north to south by a ridge mountains; and the whole land of the island is some- at elevated, sloping gradually from the centre to the s. The greatest height is Mount Misery, which rises 11 feet, almost perpendicularly, and is clothed with getation nearly to the summit. There is no plain in e island which can be called swampy, the gradual fall the ground carrying off any superfluous moisture m the earth. The vale of Basseterre is described as tremely beautiful, the ground being very rich, and ery where highly cultivated. The soil is chiefly of a rk grey loam, lying upon a bed of ashes, very porous, d is considered the finest soil for the cultivation of e sugar-cane in the West Indies. There is said to a sulphur mine in one of the mountains of the centre, d another of silver; but it does not appear that these ve ever been worked. The island is watered by four vers, none of them of any size; and there are nume- us springs in the low lands. These, however, from rong saline impregnations, are not fit for drinking, d the inhabitants have to collect rain water in tanks r domestic purposes. This island is extremely dry d healthy, the rains being more frequent than heavy, d the nature of the land preventing the water from agnating. The capital is Basseterre, which is the best hipping station. The government consists of a lieute- ant-governor, council, and house of assembly; and e colonists have always shown a desire to promote ducation.

XII.—NEVIS.

This beautiful little island, consisting only of a single ountain, which rises like a cone out of the sea, green, nbroken, and verdant to the summit, was discovered y Columbus at the same time with St Christopher's, om which it is separated by a channel about two miles road. It was first taken possession of by a party of nglish from St Christopher's; and the population is id to have rapidly increased. The mountain of which evis is composed is about four miles in length, and ree in breadth; its area being about twenty square iles. The summit has the appearance of a crater. he hill is well cultivated; and at the height where ultivation ceases, evergreen forest-trees grow luxuri- ntly, the whole island having a cheerful, picturesque spect. It is divided into five parishes, with three good oadsteads. The capital is Charlestown, which is de- cribed as a neat well-built town, with several hand- ome public edifices. The government consists of a

council and assembly, subject in certain matters to the government of St Christopher's.

XIII.—BARBUDA AND ANGUILLA.

These two islands, although far separated, may properly be classed together, from the similarity of their scenery and the occupations of the inhabitants. Barbuda is situated about twenty miles north-east of St Christopher's, and ten north of Antigua. It is about twenty miles long and twelve broad. The first notice made of Barbuda is in the time of Queen Anne, when it was given in perpetual grant to General Codrington and his descendants, by whom the greater portion of it is still possessed. Anguilla, or Snake Island, is about 100 miles north of Barbuda, and the same distance north-north-west of St Christopher's, situated in latitude 18° north, and longitude 64° west. It is thirty miles long and three broad, and receives its name (signifying an *eel*) from the peculiarly winding shape it presents. These islands were both first settled by the British; and, although subject to occasional attacks from other powers, they have always remained in the possession of this country.

The interior aspect of these two islands is quite different from that of any of our other West Indian settlements, being in many respects, indeed, quite *English*. The sole occupation of the inhabitants is farming, rearing stock, and cultivating provisions, for which a ready market is found in the neighbouring islands. There are no groups of masts in the bays and harbours; and instead of the laborious bustle, smoke, and noise, incidental to the sugar and coffee plantations, there are to be seen only numerous little rural dwellings, surrounded by waving crops of grain, and verdant fields covered with sheep and cattle.

XIV.—VIRGIN ISLANDS.

This name was given by the discoverer Columbus (in 1493) to a group of about forty small islands, lying to the northward of the Leeward Carribean Islands, and between them and Puerto (or Porto) Rico. They extend about twenty-four leagues from east to west, and about sixteen from north to south. They are divided between the British, Danes, and Spaniards, but much the larger and more valuable number belong to the former. The names of these are Tortola, Virgin Gorda (or Penniston, and sometimes corrupted into *Spanish Town*), Josvan Dykes, Guana Isle, Beef and Thatch Islands, Anegada, Nichar, Prickly Pear, Camanas, Ginger, Cooper's, Salt Island, St Peter's Island, and several others of little or no value. Those belonging to the Danes and Spaniards will be noticed in their proper places.

The British Virgin Islands were first possessed by a party of Dutch buccaneers, who built a fort on Tortola, but they were expelled soon after by a party of English. They have remained in the possession of this country ever since. The largest of these islands is Anegada, the next Tortola; and although never considered of any great importance, they afforded excellent shelter to shipping during the late war. Tortola is mountainous, the interior containing large tracts of waste land difficult of access. The soil is thin, and not well suited to the cultivation of the sugar-cane, although this and cotton are the chief articles of produce. The harbour of Tortola is very extensive, completely landlocked, and has afforded shelter, in many cases during the war, to 400 vessels. Anegada, although the largest island in extent, is of little importance, only a very small portion of it being under cultivation. It is surrounded by a reef which renders it difficult of access, and the other islands being so near, it is little frequented. Virgin Gorda is of an irregular shape, and contains two good bays, where ships may ride in perfect security. The soil is of a light sandy nature, and the chief articles of produce are sugar, indigo, tobacco, and cotton. These islands were formerly ruled by a deputy-governor and *council, who exercised both* the legislative and executive *authority, but they are now* subject to the government of St Christopher's, with a council and assembly of their own.

XV.—THE BAHAMAS OR LUCAYOS ISLANDS.

These are the most northerly of all the West India islands, stretching towards the coast of Florida, and forming with it the channel called the Strait of Florida. They were the first land discovered by Columbus in 1492, and amount in number to fully five hundred. The island which gives the name to the whole is the most northern, as well as the most important of the group. A settlement was established by the British in 16[illegible], which was ravaged by the French and Spaniards several times, and the group of islands became a nest for pirates, until the beginning of the last century, when they were expelled by the British. The Bahamas are evidently of coral formation, and although flat, they have a very pleasing aspect, from the richness of the vegetation. The chief island is New Providence, which contains the capital Nassau. These islands are very healthy, and from their situation the climate is delightful, being of a medium temperature. The chief article produced for exportation is cotton, neither sugar nor coffee having succeeded. Provisions of all sorts are very plentiful, cattle and sheep thrive well, and the shores abound with fish and turtle. The government consists of a governor, council, and house of assembly.

XVI.—BERMUDAS, OR SOMER ISLANDS.

These are a small cluster of islands, lying almost in the shape of a shepherd's crook, in latitude 32° 20′, and longitude 64° 50′, distant about six hundred miles from the nearest point of the American continent. Their discovery was owing to the shipwreck of Juan de Bermudez, a Spaniard, who was driven ashore upon these islands while on a voyage from Spain to Cuba. The same fate happened to Sir George Somers, an Englishman, in 1609, who was the first to colonise the Bermudas. They are upwards of three hundred in number, contain about fourteen thousand acres of land, and are so much alike in character, that to describe one is to describe the whole. The principal islands are St George, Ireland, St David, Somerset, Long and Birds' Islands, &c. These lie close together, in such a way as to form capacious bays, which afford good anchorage when once got into. The coast, however, is of the most dangerous description, being thickly studded with rocks, which are visible at low water, and disappear at flood tide. The chief articles of produce consist of arrow-root, coffee, cotton, and indigo. The cedar-tree grows to a great height, and is used for ship-building, and the palmetto is much cultivated for making straw hats. The soil is very fertile, and produces many kinds of vegetables fit for food; and medicinal plants, such as the aloe, jalap, &c., grow spontaneously. The whale is an annual visiter to the coast, the catching of which forms a lucrative employment to the inhabitants. Bermudas possesses no fresh water streams, and only a few wells, the water of which is brackish; but there are a great many tanks which fill during the rainy season, and supply the inhabitants. The climate is not considered healthy, the yellow fever being of frequent occurrence. Hurricanes visit the islands annually, the inhabitants being able to tell their approach by a halo round the moon. The Bermudas have never been considered of great importance to this country; but they are likely to become more so in consequence of their being formed into a penal settlement.

BRITISH GUIANA.

The British South American settlements, now forming the colony of Guiana, although not properly belonging to the West Indies, naturally come to be noticed here. This colony, as claimed by Britain, extends from the river Coventyn, in 56° 58′, to Punta Barima, at the southern outlet of the Orinoco, in 60° 6′ west longitude, in breadth, and from the Acaria mountains to the sea, in length. It formerly consisted of the settlements of Demerara, Essequibo, and Berbice, but these are now

s, the duragua, and the maam, which afford deli-
nd nutritious food. Land tortoises, and fresh-
turtles, are very abundant, the latter being chiefly
in the Essequibo and its tributaries. The rivers
ll stored with fish, some of which are very large,
id to be as delicate as any European fresh-water

The wild animals seldom attack man unless
ked, but they prove sometimes very destructive
flocks of the settlers. The serpents are all de-
d as sluggish and loath to bite, unless irritated;
atisfy themselves with attacking deer and smaller
ls. The inhabitants of Guiana are constantly
ed by the insects, which are very numerous, and
bite is painful, although not dangerous. The worst
se are the centipede, the scorpion, the bush spider,
igo, the mosquito; and some species of ants
very destructive to vegetation.

tish Guiana is divided into three counties, Demer-
Essequibo, and Berbice. The two former have
nited, and are divided into eleven parishes, and
tter into six. These colonies were first settled by
utch, captured by the British in 1796, given up to
atavian Republic in 1802, retaken in 1803, and
ceded to this country at the general peace of

The settlements are all situated upon the banks
rivers from which they receive their name, ex-
g along both sides, and generally as far inland as
vers are navigable. Each plantation has a wharf
ding-place of its own, and canals are cut into the
or the admission of boats and the draining of the
nding country. For fifty miles along the sea-
of the county of Berbice, a huge embankment has
nised against the sea, on which is a carriage-road
feet broad. A comparatively small portion of
a is yet cultivated, and an immense field for
al industry still lies open. The extent of culti-
land, however, is gradually increasing as the ad-
ges of the colony are becoming known. The staple
cts consist of sugar, rum, coffee, and cotton; and
thought, from the fertility of the soil, and the
ant summer which prevails, that many other valu-
plants might be cultivated. The climate is very
and regular throughout the year, the maximum
being 90, the minimum 74, and the mean tempera-
about 82 degrees. Two wet and two dry seasons
itute the changes of the year; the great wet season,
s called, commencing in the middle, and continuing
e end, of August, and the great dry season from the
f August till the end of November. The short wet
n occurs from December to the middle of February,
he short dry season from February to April. The
oing applies to the coast regions, the interior being
ed by only two great changes during the year.
icanes never occur in this colony, and even severe
are little known. Earthquakes are occasionally
ut they are very slight, and little attention is paid
em by the inhabitants.

e capital of British Guiana is George-town, situ-
on the western bank of the river Demerara, which
a population of from twenty to twenty-five thou-

The streets are generally wide, traversed by
s; the houses built of wood, two storeys high, and
ated from each other by gardens and ditches.
built in two rows, about a mile long, on the river
and contains several handsome buildings. New
erdam, the chief town in the county of Berbice,
ds about a mile and a half along the western
of the river Berbice. The houses have all gar-
behind, and are separated from each other by
s or trenches, and the town is described as pre-
ng a very pleasing aspect on entering the river.
population of this town, according to the last pub-
d census, was 2900, and there are many other vil-
which are gradually rising in importance.

e exports from Guiana, as is the case with all the
West India colonies, have decreased of late years,
from the encouragement which is now given to
rants, it is hoped that this will in the course of
be remedied. The exports from the whole of

Guiana in 1839 amounted to 35,845 hogsheads, 2135 tierces, 2396 barrels of sugar; 13,245 puncheons, 3817 hogsheads, 882 barrels of rum; 11,664 casks, 85 hogsheads, 14 barrels of molasses; 1,356,700 lbs. of coffee; 912 bales of cotton. The value of the imports in 1836 was £1,204,560, and since that period it is thought to have increased to nearly £1,500,000.*

The population of Guiana may be divided into Europeans, Africans, people of colour from other parts, and native Americans. The native Americans have dwindled down to a very small number, who lead a wandering life on the frontiers and savannahs of the colony.

The government is vested in a governor and court of policy, consisting of the governor, chief-justice, attorney-general, collector of customs, government secretary, and an equal number of persons elected from amongst the colonists. Formerly all free male inhabitants were liable to serve in a military capacity, but since the abolition of slavery the militia has been disbanded. The local government have made the greatest efforts to promote education in the colony, and many schools and churches have been erected, at considerable expense. The number of individuals who received instruction in 1838 amounted to 4683 adults, and 6680 children; making together 11,363.

GOVERNMENT OF THE BRITISH WEST INDIES.

The forms of government established in the British colonies in the West Indies, may be divided into two classes; those having a governor, council, and representative assembly; and those having only a governor and legislative council. The first includes Jamaica, Barbadoes, Antigua, Tobago, Grenada, St Vincent, Montserrat, Nevis, St Christopher's, Honduras, the Virgin Islands, the Bahamas, and the Bermudas; and the second, Guiana, Trinidad, and St Lucia. The reason for this difference is, that most of the colonies were acquired by conquest, and the inhabitants who chose to remain in the island were guaranteed their laws and the exercise of their religion. The governor has the chief civil and military authority; the council is somewhat analogous to the privy-council in this country, and the House of Assembly to the House of Commons. A member of the House of Assembly in Jamaica must possess a freehold of £300 per annum, or a personal estate of £3000; and an elector must have a freehold of £10 per annum in the parish for which he votes. Some of the islands have only lieutenant-governors, who are under the governor of some adjacent island. The lieutenant-governors of St Vincent, Grenada, Tobago, and Guiana, are under the governor of Barbadoes. Their powers, however, are nearly equal to those of a governor. In those islands which have no representative assembly, the legislative council consists of the chief secretary, the treasurer, the chief-justice, the attorney-general, and the commander of the troops. These are appointed by the crown; and sometimes a few of the principal landed proprietors are made members of the council. Several islands are sometimes included in one government, who send their representatives to the island which is the seat of legislature for the time being. Thus, in the Leeward Islands, St Christopher's, Nevis, Montserrat, and one or two other small islands, send their representatives to Antigua, which is the seat of government for them all; or, in other words, the residence of the governor. The superior and inferior courts of judicature resemble those in England, the laws being the same, unless as they may be affected by the special colonial enactments passed from time to time. Assize courts are frequently held, to expedite the course of justice. There are, likewise, parish courts, wherein justices of the peace decide summarily in small-debt cases. There are offices where all deeds, wills, sales, and patents, are recorded. All persons intending to leave the island are obliged to give notice at the *office of enrolment* three weeks before they can be entitled to a pass, or to find security for w they may leave unpaid in the island; and, fo precaution, masters of vessels are taken bou heavy penalties, not to carry off any perso such pass. The procedure of the assembly near as may be the formula of the British le and all their bills have the force of laws as s governor's assent is obtained. The power of however, is vested in the crown, but, *until re* laws are valid. The governor can also r assent to all such laws, and can dissolve an gether the assembly at pleasure. His salar partly by the crown, and partly from the venues.

* Schomburgk's Guiana.

FOREIGN POSSESSIONS.

FRENCH.

The French possessions in the West Indies the islands of Martinique, Guadaloupe, Marie and Deseada. Martinique is situated at the to the Gulf of Mexico, between the parallels and 14° 52′ north, and 63° 6′ and 63° 61′ w Paris. It is about fifty miles long and twen and a hundred and forty miles in circumference volcanic origin; romantic in appearance; and t tains are covered with almost impenetrabl Martinique is well watered, seventy fine rive enumerated; and there are many other strea island. The soil is good, although it varies account of the volcanic eruptions, which have places covered the surface of the land. Ab fifths of the whole island are cultivated; the re occupied with mountains, forests, and plains latter yield good herbage for cattle. Port Ro capital, is situated on one of the several bay indent the coast, and possesses the safest a capacious harbour in the West Indies. The well built, the streets regular, and running angles to each other, with a stream of water o side. The population is about 7000. The chi mercial town is St Pierre, which is described ceedingly neat. The houses are high, having pean aspect, and the streets regular and clean lation 30,000. The population of the whole i estimated at 101,865 inhabitants, of whom, 9937 were whites, 10,786 free people of colo 31,142 slaves.

Guadaloupe is situated in latitude 16° 20 and longitude 62° west. It is divided through th by a small channel, which is navigable for vessel tons, and forms as it were two islands. The division, called Grandeterre, is fourteen leagu and six broad; and the western, Basseterre, i leagues long and fourteen broad. There are volcanic mountains in Guadaloupe, one of wh emits smoke, and sometimes sparks of fire. Th is well watered, and diversified with hills and The soil is good, and yields abundance of fr grain. The chief productions are sugar, which, the cane reaches a great height, is not good; an which is also of an inferior description. Th is Pointe à Pitre, which possesses a spacious po here the principal trade is carried on. Bass also a considerable town, with many fine buildin tains, and public gardens.

Deseada and Marie Galante are small islan ated near Guadaloupe, and subject to its gove The former is famous for its cotton, and the latt sugar and coffee. These islands, along with Gua contain 334,142 English acres, with a popul 112,111 inhabitants.

SPANISH.

A few years ago, the colonial possessions extended from the frontiers of the United State to Cape Horn. Now, she has not a foot of lan whole American continent; and of the islands

DIES.

very dry, and the land parched. The climate of land is somewhat peculiar; on the north coast it rains during the whole year, while on the south an entire want of rain for twelve or fourteen is is no uncommon phenomenon. The chief pro- ns of Porto Rico are sugar, coffee, indigo, rice, ve-stock. The value of the exports in 1830 was ated at 5,411,342 dollars, and that of the imports 08,941 dollars; the dollar being equal to about shillings and threepence sterling. The number abitants in 1830 was estimated at 323,838, of 162,311 were whites. The chief towns are ques and Aguadilla.

DUTCH.

Dutch possessions in the West Indies are Cu- and St Eustatius, Saba, and part of St Martin— the Carribean group. The two former are natu- barren. Curaçoa, from its proximity to South ica, was formerly a place of great centraland ; but, since the independence of that continent, it used in a great measure to be an *entrepôt*. It is miles long and eleven broad, and produces sugar bacco. Like some of its sister isles, it is entirely dent on the rains for a supply of water. It was by the Spaniards until the year 1632, when it was by the Dutch, in whose hands it has since re- d. The population is estimated at about thirty and.

Eustatius consists of a single mountain, which is y-nine miles in circumference, and cultivated to ry summit. The productions are sugar and to- , and the population may be about fifteen thousand. first colonised by the Dutch in 1635, and con- d for many years a subject of contention between and the French, by whom it was alternately pos- d, until 1781, when it was captured by Admiral y. The booty which fell into the hands of the sh on this occasion was estimated at £4,000,000 ng. It was restored to the Dutch by the peace 95; and, after being again captured by the Eng- was finally secured to the Dutch by the peace of

a and St Martin are too inconsiderable to need r mention.

DANISH.

Danish settlements, all belonging to the Carri- group, are three in number—St Croix (or Santa , St Thomas, and St John, of which the former is of any importance. It is about eighty-one miles , and contains about thirty thousand inhabitants. oil is fertile and well cultivated, producing sugar, and tobacco. St Thomas is about six leagues in nference, and St John about the same. They are quite inconsiderable.

SWEDISH.

only colony belonging to the Swedes is the small d of St Bartholomew, in the leeward Carribean , and about fifteen miles in circumference. It nly one town and one harbour—Gustavia, and Le ange. The population is about six thousand.

INDEPENDENT ISLAND—ST DOMINGO.

is island, lying between Porto Rico on the east and ica and Cuba on the west, is three hundred and y miles long, and from sixty to one hundred and fifty broad. It was discovered by Columbus, who called paniola, or Little Spain, but the native inhabitants Hayti, or the mountainous land. The French Spaniards took possession of the island in 1630, ing it between them. No particular event took till the period of the French Revolution, when, g advantage of the contest between the royalists republicans, the natives and slaves rose in a body, acred the whites, and established their indepen- . Christophe, formerly a slave, was elected chief, governed the island with great wisdom for a num-

ber of years. In 1811, he was crowned king, created princes and nobles, and reigned undisputed till 1820, when his jealousy and despotism caused a general revolt, and, seeing his affairs desperate, he shot himself. A republic was then established, which was soon extended over the whole island, the Spanish half having also made a successful revolt. The government at present consists of a president, who is elected for life, and a senate and chamber of representatives.

The greater part of the coast of St Domingo is rocky and dangerous; but the bays of Samana and Neyba afford secure anchorage for large ships. There are also many small ports, situated generally at the mouths of rivers, in which small vessels can anchor with safety. The rivers are numerous, the principal being the Haina, the Nigua, the Neyba, and the Yima, which are navigable for some leagues from their entrance. In this island a salt-water lake exists, which is about eighteen leagues in circumference, and contains fish similar to those found in the sea, such as the shark, the seal, the porpoise, &c. The country is mountainous, but interspersed with fine plains of great fertility. The mountains intersect the island from east to west, some of them reaching the height of 6000 feet above the level of the sea. On the north-west side is an extensive plain, supposed to be eighty leagues long, and from ten to fifteen broad, which is extremely fertile, being watered by numerous streams. The soil is of the finest description, and is distinguished by the variety of its vegetable productions. The mahogany-tree grows to a great height, and the manchineel affords a species of wood veined like marble, and which is susceptible of the highest polish. Several species of dye-woods are found in the island, and also the lignum-vitæ, iron-wood, a species of oak of great size, and abundance of pine. The cotton-tree is the largest in the island, and is formed by the natives into canoes, which are light and capacious. The fruits are very numerous, and are described as extremely fine; and flowers of endless variety adorn the woods. The indigenous quadrupeds were only four in number, and they are now all extinct. The French and Spaniards, however, introduced breeds of horned cattle, hogs, sheep, horses, mules, and asses, which have multiplied exceedingly, and are of great value to the inhabitants. Wild-fowl are abundant; and turtle, and numerous varieties of fish, are caught on the coast and in the rivers. Mines of gold, silver, iron, and copper, were formerly found in this island, but it does not appear that they are worked to any extent at present. The island is divided into six districts, named generally from their positions, West, South, Antihonite, North, North-east, and South-east.

St Domingo was formerly considered one of the most important islands in the West Indies, and it is evident from its size, and the fertility of the soil, that it might be made so again. The policy of the government, since the independence of the island was declared, has been illiberal; heavy burdens are imposed upon merchants settling in the country, and all foreign merchandise is liable to a duty of 12 per cent. upon entering the country, except French, which pays 6 per cent. Sugar and coffee were formerly exported in very large quantities, but these have now very much decreased. In 1789, the amount of raw sugar exported was 93,500,000 French pounds, and in 1801 this had fallen off to 18,500,000. The export of coffee in 1789 was 76,835,219 pounds, and in 1801 this had decreased to 43,420,270 pounds. The exportation of wood has increased as that of sugar and coffee have declined, and tobacco is also more extensively cultivated. The population of the island has diminished considerably since the revolution. According to some accounts, it is estimated at 422,939, but others give it so high as 900,000. Port-au-Prince, the capital, is situated in the department of the West, has an excellent roadstead, and is the chief seat of trade. The town is built of wood; the streets are unpaved, and, from the marshy nature of the surrounding country, it is very unhealthy in summer. The population is about 15,000. The other towns are Port Haytien, which is the best built place in the island; Les Cayes, Domingo, the capital of what was formerly the S part of the island.

CLIMATE OF THE WEST INDIES.

The year may be divided into four seasons; first commencing with the mild vernal rains in or May, which usually last six weeks; the seco cludes June, July, August—hot and dry; the includes September, October, and November, are the hurricane and rainy months; and the December, January, February, and March, wh the most serene and cool months.

The climate of the West Indies is pretty near in all the islands. The average of the thermomete towns may be set down at 80 degrees during th mer months (from July to November). It often to above 90, but in the mountains it has been kn be so low as 44 degrees, so that a fire at noon i necessary a great part of the year. The temper kept cool by the alternations of the sea and land b the former blowing only during the day, the lat during the night. Of the latter, which alway from the centre of the island (be it ever so sm only scientific account ever given is that of Dr F which is as follows:—"As soon as the sea-bre away (in the afternoon), the air of the plains rarefied, ascends towards the tops of the mo and is there condensed by the cold, which, m specifically heavier than it was before, it descen to the plains on both sides of the ridge." It is a lar dispensation of Providence, that in Barbad the smaller windward Carribean islands, wh without these landward breezes, the sea-bre trade-wind) blows both night and day.

The most delightful time of day in Jamaica is dawn, before the sun has yet begun to pour hi gence over the hemisphere of the Carribees, and the land-breeze has died away. The sea-bre "doctor," as it is gratefully designated by the tants of Jamaica, which invariably blows from the east, or some other point ranging from south t generally sets in about nine o'clock A.M., at fir gently rippling the surface of the ocean, and inc gradually, until it often assumes the strength of porary hurricane. Its coming is hailed by the p and literally melting inhabitants, with a deg thankfulness and a sensation of relief, which ca be known by those whose lot it has been to inh oppressive and suffocating atmosphere of these

Were it not for this regular alternation of winds and inland-breezes, the islands of thes would, to Europeans at least, be perfectly unh able. Let such of our readers, therefore, who tiny has never led them beyond the cool sh Britain, conceive, if they can, the sufferings brethren in the tropics, when it happens th "doctor" absents himself for a whole fortnigh time.

In the afternoon, the sea-breeze dies away comes—gradually; after which, for a few hours and sea are again locked in a stillness of rep syncope of motion, which, to a new comer, has thing almost ominous; and as his imagination is rally saturated before his arrival with descript those fearful visitations, the earthquakes—wh there so frequent, though seldom occasioning damage—he instinctively listens, in that period found stillness, for the first rumbling growl pre the volcanic explosion. Earthquakes, however for many years been becoming rarer and rarer West Indies—a fact which seems to confirm the thesis that these islands having, at one time or had their origin in volcanic eruptions, are gra cooling, and that these fearful visitations will so gether cease. There is scarcely a house, howe many years' standing, in the walls of which huge cracks are not to be seen.

The most dreadful scourge of these islands

ious plants of humbler growth, and which love humidity, display their beautiful verdure on their edges. I are sheltered by the wide-spreading branches of mango, mahogany, teak, mimosa, and other woods markable for their stateliness, and clothed in wild and gnificent pomp. The vegetation every where displays that vigorous aspect and brightness of colour so racteristic of the tropics. Here and there, as if for trast, huge masses of trap, blackened by the action the atmosphere, and decayed tremendiæ, present mselves: these blocks, which in colder climates uld be doomed to eternal barrenness, or at most uld only nourish the pale and sickly lichen, here e support to creeping plants of every form and our, which cover with yellow, green, and crimson, sides of the sable rock. In their crevices the succent species are daily renewed, and prepare a soil for ger tenants; from their summits, the old man's rd, and similar weeds, which seem to draw their rishment from the air, hang pendant, floating at the sure of the winds. At a distance is seen the trumpet-, whose leaves seem made of silver plates, as the st reverses them in the beams of the mid-day sun. a solitary spot rises a wild fig-tree, one of the antic productions of the torrid zone. The huge bs of this tree, covered with perpetual verdure, throw en, often from the height of eighty or ninety feet, a ony of suckers of every possible size, from that of k-thread to the vast cable of a ship, without any ible increase in their diameter, and without a joint; se, reaching the ground, become other trees, still maining united. At other times, the suckers, blown ut by the winds, are entangled round the trunk, or e neighbouring rock, which they surround with a work of the firmest texture, as if the hand of man l been employed. Above the rocky summit of the s, the tree ferns, which are the principal ornament our scenery, appear at intervals: convolvuli, and er creeping plants, have climbed their high stems, suspended their painted garlands. The fruits of country, scattered within our reach, and the green es of the bananas and heliconias, planted beneath, ve to minister to our refreshment, and to convey er from the neighbouring spring. On every side, umerable palms of various genera, the cocoa-nut, e, cabbage palm, &c., whose leaves curl like plumes, ot up majestically their bare and even columns ve the wood." Although the foregoing description written for St Vincent alone, the vegetation of se islands is so much alike, that what is said of one apply equally to the rest.

'otatoes are cultivated, but they are watery, and er attain a large size. The yam grown in the ntains, however, is much esteemed; and the seas are well supplied with potatoes from Britain and erica. There are green peas at all seasons, and a t called callaloo, resembling spinach, is much used he interior. The plantain, and what is called the den marrow, are also abundant, and much in rest as food. The flowers indigenous to these islands numerous, and exceedingly rich in colour; and it quently happens that fruits and blossoms are seen wing from the same branch.

Regarding the cultivation of those plants which give West Indies their vast importance, we quote the owing from Loudon's Encyclopædia of Agriculture: he culture of the sugar-cane in Jamaica in some pects resembles that of the hop in this country. ground being cleared, and worked a foot or more depth, the sets or cuttings of the cane, which are tops of the shoots cut off about a foot long, are nted in rows, generally five feet distant, and from to five feet apart in the row, according to the quaof the soil, more plants being allowed for poor than soil. The ground is kept free from weeds, frently stirred, and some earth drawn up to the plants. m each hill, a number of shoots are produced: in months or more, these will generally be from seven en feet high; the skin smooth, dry, and brittle, leaves

with a grey or brown pith and sweet glutinous juice. In this state, the canes are cut, tied in bundles or sheaves, and taken to the mill to be divested of their leaves and decayed parts, and then passed through rollers to express their juice, &c. Cane plantations are formed either in May or June, or in December and January, these being the rainy seasons.

The cotton plant is propagated by seed, which is set in rows, about five feet asunder, at the end of September or beginning of October; at first but slightly covered, but after it is grown up, the root is well moulded. The seed is subject to decay when it is set too deep, especially in wet weather. The ground is hoed frequently, and kept very clean about the young plants, until they rise to a moderate height; otherwise they are apt to be destroyed by caterpillars. It grows from four to six feet high, and produces two crops annually; the first in eight months from the time of sowing the seed, the second within four months after the first; and the produce of each plant is reckoned about one pound weight. When a great part of the pod is expanded, the wool is picked, and afterwards cleared from the seeds by a machine called a gin, composed of two or three smooth wooden rollers of about one inch in diameter, ranged horizontally, close and parallel to each other, in a frame; at each extremity they are toothed or channelled longitudinally, corresponding one with another, and the central roller being moved with a foot-lathe, makes the two others revolve in contrary directions. The cotton is laid upon these rollers whilst they are in motion, and, readily passing between them, drops into a sack beneath, leaving the seeds, which are too large to pass through behind.

Indigo thrives best in a rich free soil and a warm situation frequently refreshed with moisture. Having first chosen a proper piece of ground and cleared it, it is made into little trenches, not above two inches or two inches and a half in depth, nor more than fourteen or fifteen inches asunder. In the bottom of these, at any season of the year, the seeds are strewn pretty thick, and immediately covered. As the plants shoot, they are frequently weeded and kept constantly clean, until they spread sufficiently to cover the ground. Those who cultivate great quantities, only strew the seeds pretty thick in little shallow pits, hoed up irregularly, but generally within four, five, or six inches of one another, and covered as before. The plants grow to full perfection in two or three months, and are observed to answer best when cut in full blossom. They are cut with reaping-hooks a few inches above the root, tied in loads, carried to the works, and laid by strata in the steeper.

In cultivating the coffee, the berries are sown immediately after being gathered, as they are found to retain their vegetative quality only a few weeks. In three months they are fit to transplant, either to a nursery or to a final plantation. In the low lands, they are planted five feet apart, and in the mountains ten feet or more. In three years, the plants will produce a crop, and continue bearing for a number of years. The berries are gathered when they are just about to drop; and are immediately carried to sheds, where they are dried upon cloths, or mats, till the husk shrivels. They are then passed through between wooden rollers turned by a mule, which separates the husk, after which they are winnowed, sifted, cleaned, exposed to the sun for a few days, and then barrelled up for sale."

Various European animals thrive remarkably well in some of the islands. Amongst these may be mentioned the ox, which is much used both for food and labour. Oxen never attain such a size in tropical climes as in this country; and from the labour they have to undergo, the beef is not so good. Horses and mules are abundant in Jamaica, they being principally used for riding or drawing light burdens. Sheep are also plentiful, but the mutton is coarse. Pigs, especially such as are fed upon sugar estates, are very highly esteemed as food; their flesh being described as exceedingly delicate. Goats are kept in considerable numbers for the sake of their milk, which is thought better than cows. Fish are very abundant on the shores of island, and form an important article of cons Their flesh is described, however, as pulpy, an be compared to that of the salmon. The most are those caught in the mountain streams; and land turtle are also frequently met with. Oys to be seen hanging on the pendant branches of low, which grow into the water. The black Jamaica is esteemed as a great delicacy; and what peculiar in its habits. They burrow in during one season, and at others they are fo found far into the interior of the country. It posed that they migrate across the islands w they are found annually. The domestic fowls merous, comprehending almost every kind k this country, except geese and the common d place of these, however, the Muscovy duck, th and the Guinea fowl, thrive remarkably well.

The green turtle is very common in man West India islands, and is much prized as a of food. This species derives its name from being green, and is that most esteemed by There are very few shell-fish in the West Indi are either useful or ornamental. The most are the horned helmet, the strombas gigas, and plecocheilus undulatus, which is confined to St alone.

With such resources, it may be supposed inhabitants live in comfort, from the highes lowest. The mode of life followed in Trinida scribed to us by a resident, is to rise at five, g of coffee, and go to business till seven. Bre then served, and business is suspended for two hours during the heat of the day, during wh the reading-room is much frequented. Wor commences at four or five in the afternoon, and up altogether at nine in the evening.

INSECTS, REPTILES, BIRDS.

One of the most annoying pests of the Wes is the myriads of ants that every where swarm, within as without doors. There are innumerab ties of them—some black, some brown, some la some very small. But, like all the other pro of nature, these little animals, which, by some ficial writers, have been called the "plague of t Indies," prove of the most beneficial consequ the health of the island. They are carnivorou prevent the accumulation of putrid animal Their scent is remarkably acute, and a dead fl or even mosquito, will not lie on the floor for nutes, before a procession of ants will be seen from some distant corner of the apartment, w off the prize bodily to their store-house, to sumed at their leisure.

Perhaps the greatest annoyance experienced settlers in those islands is from the bites of the tos, although these animals are not nearly so dable there, in size or sting, as on the South A continent. In the latter they are so dreadful a that people obliged to sleep out of doors can n protection from the smoke of rank and gree thrown upon a fire to windward of them. islands, however, they are exceedingly troub and a new settler may almost be recognised fr blotched and swelled appearance of his face, ha ankles—in short, every part of his person exp their venomous probosces. They resemble exa British midge, and are in fact of the same fa insects. After a short residence, they cease to annoyance to Europeans, who become callous stings, and whom, indeed, they cease to fix up being some time in the country. They do all trouble the Negroes, whose oily skins are vious to their stings. They are most tormenting the night, and, to guard against their attacks curtains are hung round the bed of every res inhabitant in town or country. The process of

when the vessels themselves were out of sight
They are found so beneficial to the health of the
thus consuming all putrid animal substances,
e of a doubloon (£5 currency) is exacted for
e of them. When sickness prevails in a house,
ds perch upon the roof even in the midst of
here they will remain for many days, as if
or their loathsome banquet—in the same man-
harks are said to attend sick ships at sea.

TION OF THE NEGRO POPULATION.—TRADE, &c.

ars to 1834, the British West India Islands were
ated by Negro slaves; but in that year a bill
se Houses of Parliament by which slavery was
l, the planters receiving £20,000,000 sterling
ries of Negro emancipation. This bill declared,
r the 1st of August 1834, all slaves should be-
prenticed labourers; the apprenticeships to
August 1840. In the interval, disturbances
, and much property was damaged, from the
believing that they had now only to work for
es; but in the course of a few months they
to their labour. This they did, however, with
luctance; and in many instances the crops
ined for want of sufficient attendance. The
of the islands in consequence greatly decreased;
it yet reached the amount it stood at before
ng of the Emancipation Act. The Island of
totally abolished slavery in 1834, without re-
the stipulated apprenticeship; and it is highly
g to know, that the amount of crime greatly
d in this island since that period. Bermuda
the example of Antigua, which was imitated
r of the smaller islands, and afterwards by
es. Jamaica and some other islands, however,
till August 1838, when slavery was finally
l in the British West India islands. It was
ed that this event would lead to a considerable
f social disorganisation, but nothing of the kind
; and the conduct of the emancipated Negroes,
y may be termed the *peasantry* of the West
has been peaceful and orderly; and on all oc-
they have manifested a desire to work at fair
nd to improve their moral and intellectual con-
dr Gurney (a member of the Society of Friends),
velled through the West Indies in 1840, and
ished the result of his investigations, corrobo-
official information on this subject, and describes
provement of habits and desires among the pea-
s most remarkable. The only disposition that
rred in the islands, has, it seems, been caused
yers exacting heavy rents for cottages and
-grounds; but this source of disquietude, we
no longer exists, and tranquillity and industry
here prevail.

minica, he found the Negroes manifesting great
for instruction—a thing that cannot be said of
lish peasantry. One day, he observes, "The
athered around us, and a woman came forward
lf of the company, to beg for a school. 'We
gry for a school,' said she; 'we are tired of
for it.' Nor were these idle words; for the
n this and a neighbouring property had agreed
ribe eight dollars per month in part payment
her. Nothing, indeed, can be more eager than
re of the negroes of Dominica for education—
m determined to obtain it; and it is gratifying
that the efforts now making for the purpose
nce considerable and successful. There are
00 scholars in the four Mico schools, which are
ducted, and being quite clear of any peculiar
bias, are acceptable to the whole population."
ms an agreeable piece of information. In Do-
a majority of the lower house in the legislature
sed of coloured persons, and the same class of
are now eligible as jurors, both in this and other
it becomes absolutely necessary that the people
by means of instruction, be prepared for per-
these functions with propriety. Another cir-

cumstance which fell under Mr Gurney's notice at Dominica deserves to be made widely known. During slavery, it was below the dignity of any free person to labour in the fields; and all who could do so preferred to live in idleness rather than work. The abolition of slavery has removed this detestable plea for living in a state of slothful indulgence. *It is now quite respectable to work*—labour in the fields is not discreditable. This indicates an important social improvement. In speaking of Jamaica, Mr Gurney shows, that a coffee estate which he visited is now conducted at a much cheaper rate than during slavery, when the planters were obliged to support not only the actual workers, but all the young, old, sick, and idle. The owner of the estate in question described the two different conditions of affairs as follows:—"One hundred and seventy slaves, or apprentices, used to be supported on this estate. Now, our friend employs fifty-four free labourers, who work for him four days in the week, taking one day for their provision-grounds and another for market. This is all the labour that he requires, in order to keep up his former extent of cultivation. And willingly did he acknowledge the superior advantage which attends the present system. The saving of expense is obvious.

I understood our friend to allow that the average cost of supporting a slave was £5 sterling per annum.

170 slaves, at L.5 per annum, is - - - -	L.850 0 0
Now, he pays 54 free labourers 4s. 6d. per week, one day's labour being set off against rent, for 50 weeks, two weeks being allowed for holidays, - - - - - - -	607 10 0
Saving under freedom, - - -	L.242 10 0"

In the course of another journey, Mr Gurney offers the following useful fact:—"'Do you see that excellent new stone wall round the field below us?' said the young physician to me, as we stood at A B's front door, surveying the delightful scenery. 'That wall could scarcely have been built at all under slavery or the apprenticeship; the necessary labour could not then have been hired at less than £5 currency, or 15 dollars per chain. Under freedom, it cost only from 3½ dollars to 4 dollars per chain—not one-third of the amount. Still more remarkable is the fact, that the whole of it was built under the stimulus of job-work, by an invalid Negro, who during slavery had been given up to total inaction.' This was the substance of our conversation; the information was afterwards fully confirmed by the proprietor. Such was the fresh blood infused into the veins of this decrepid person by the genial hand of freedom, that he had been redeemed from absolute uselessness—had executed a noble work—had greatly improved his master's property—and, finally, had realised for himself a handsome sum of money. This single fact is admirably and undeniably illustrative of the principles of the case, and for that purpose is as good as a thousand." Of the condition of Jamaica generally, Mr Gurney observes—"The imports of the island are rapidly increasing; trade improving; the towns thriving; new villages rising in every direction; property much enhanced in value; well-managed estates, productive and profitable; expenses of management diminished; short methods of labour adopted; provisions cultivated on a larger scale than ever; and the people, wherever they are properly treated, industrious, contented, and gradually accumulating wealth. Above all, education is rapidly spreading; the morals of the community improving; crime in many districts disappearing; and Christianity asserting her sway, with vastly augmented force, over the mass of the population. Cease from all attempts to oppose the current of justice and mercy—remove every obstruction to the fair and full working of freedom—and the bud of Jamaica's prosperity, already fragrant and vigorous, will soon burst into a glorious flower."

Notwithstanding the symptoms of industry and improvement *which prevail*, it happens that the West *Indies suffer from a general* deficiency of labourers, and to relieve this serious difficulty various have been adopted, though without any impor sult. Whether from this deficiency or from th of the seasons, the produce and trade of the islar not kept pace with the improvements in their co dition. We have been unable to find any offici ment which can furnish a view of the export port trade during late years. In 1833, the expo the West Indies amounted to £3,008,248, and they were only £5,410,113. The exports of th nies are considerably greater than their impo consist of four leading articles—sugar, rum, n and coffee. In 1835 they sent out 3,524,209 sugar, 5,453,317 gallons of rum, 507,627 cwts. lasses, and 14,866,580 lbs. of coffee. Much th export from any individual colony was from The imports from the United Kingdom in 1838 a to £3,393,441, a sum so inferior to the valu exports, that there must be a great paymen planters in cash.

The principle on which the trade with the W dies is conducted, like that of all our colonies, cious in the extreme. It consists in our oblig prefer buying from them instead of from Brazi other foreign country, which could supply us at a rate. While we now write, for example, sug be imported into Britain from Brazil at less t the price we are paying for it to the West Indi people of the United Kingdom are in this ma it is calculated, losing several millions per ann clusively of civil and military expenses. It is however, to dilate on this absurd system of tra present certain plans are in contemplation for the tariff of import duties, which leads to such injury to the mother country, and which is comp by no commercial advantage whatsoever.

The currency employed in the West Indi imaginary money, and has a different value in colonies. The following are the values of £1 ling, and of a dollar, in the currencies of the islands:—

	Sterling.	Currency.	Dollar.
Jamaica, - - - -	£100 =	£140	1 =
Barbadoes, - - - -	100 =	133	1 =
Windward Islands (except Barbadoes), - - -	100 =	175	1 =
Leeward Islands, - -	100 =	200	1 =

As far as we know, there is not any censu population of the West Indies later than that The following is the census for that year: the of the population in Jamaica, however, is only proximation, there being no available census island:—

Colonies.	Whites.	Free Coloured.	Apprenticed Labourers.
Antigua, -	1,000	33,432	...
Barbadoes, -	14,959	5,146	82,807
Dominica, -	840	3,606	14,384
Grenada, -	891	3,786	23,536
Jamaica, -	36,000	...	...
Montserrat, -	330	974	6,355
Nevis, -	700	2,000	8,722
St Kitt's, -	1,612	3,000	20,000
St Lucia, -	831	3,919	13,438
St Vincent, -	1,301	2,824	22,907
Tobago, -	280	3,000	11,621
Virgin Isles, -	477	1,206	5,192
Trinidad, -	4,201	18,724	22,339
Bahamas, -	4,657	4,211	9,205
Bermudas, -	4,264	4,456	...
Demerara, -	3,006	6,360	65,556
Berbice, -	570	1,651	19,350
Honduras, -	256	1,788	1,920
Anguilla, -	365	327	2,380
Total, -			

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EAST INDIES.

the fairest and richest portion of India. This
t, in its largest extent, may be described as a
ircle, with its base extended along the line of the
leh Mountains, and its curve running along from
ana on the Indus, to Delhi, Gualior, Punnah,
hulpoor, and Balasore, where it meets the sea
e mouths of the Ganges, thence along the coast
ittagong, and north by Silhet and Rungpore, to
e the country of the Brahmaputra.
first sight of India to European voyagers has
which can please or interest. The coasts are
kably flat, and frequently dangerous to approach
gh the raging surf; the shore is only discernible
tall cocoa-trees which surround the villages or
es. This extreme flatness of the shores of India is
the peculiar distinguishing traits of the country,
exceedingly disadvantageous in a maritime com-
al point of view.
southern district of this magnificent valley is
Bengal, and extends along the sea from Chitta-
o Balasore, about four hundred miles, and reaches
the same distance northward. The sea-coast is
e most fertile or useful part of this territory;
part of it towards the centre being composed of
y ground, or of mud islands, among which the
ies of the river are spread like net-work. These
s are covered with a rank vegetation of reeds,
are sometimes twenty or thirty feet high; or
rees and underwood so tall and dense, that it is
sible to penetrate them. They afford shelter to
and other wild animals, but the air of the whole
n is pernicious to health. About 150 miles up-
, the soil becomes higher and less marshy, so as
rd good ground for cultivation; and the country
fertile and thickly peopled. It is in this district,
diately above the mouths of the Ganges, that
ta, the capital of British India, is situated. The
ations of the Ganges cover and fertilise immense
of the level country near the river, while others
remote procure the same advantages from an
ial irrigation. Luxuriant fields, divided by groves
l trees, with villages under their shelter, and
ing with a population beyond any thing that
e can show, form the general features of the vast
l plain of Bengal.

DIVISIONS OF THE COUNTRY.

modern territorial and political subdivisions of
may thus be specified:—First, Northern Hin-
, an extensive and rugged territory, comprehend-

country between the
leja and Jumna.
rwal or Serinagur.
rces of the Ganges.
, Hindostan Proper,

4. Kemaoon.
5. Palnkhandi.
6. Bhotant.
7. Dominions of Nepaul.

which is the most com-

prehensive division. It stretches across the centre of India, and obtains the most prominent place in the history of the old Mahommedan empires of India. It reaches south to the Nerbudda river, where the Deccan commences, and includes the following thirteen large provinces:—

1. Bengal.
2. Bahar.
3. Allahabad.
4. Oude.
5. Agra.
6. Delhi.
7. Lahore.
8. Cashmere.
9. Ajmeer.
10. Mooltan.
11. Cutch.
12. Guzerat.
13. Malwa.

Third, The Deccan.—This division lies next, in a southerly direction, to the above, extending from the Nerbudda river on the north, which flows into the sea on the west coast, to the Krishna, a river flowing into the sea or Bay of Bengal on the east coast. Between these rivers lies the Deccan, a much less fertile division of India than the preceding; Bombay, a small island on the west coast, belongs to the province of Aurungabad in this division. The Deccan comprehends the following provinces, a portion of which once formed the Mahratta empire:—

1. Gundwana.
2. Orissa.
3. The Northern Circars.
4. Candeish.
5. Berar.
6. Beeder.
7. Hyderabad.
8. Aurungabad.
9. Bejapoor.

Fourth, India South of the Krishna.—This division forms the extreme southerly portion of the Indian peninsula, and comprehends the following provinces:—

1. Canara.
2. Malabar.
3. Cochin.
4. Travancore.
5. Balaghaut, ceded districts.
6. Mysore.
7. Coimbatoor.
8. Salem, and the Barramahal.
9. The Carnatic, in which is situated Madras.

Besides the foregoing divisions and provinces, the large territories of Ava and the Burmese empire, lying east from the Brahmaputra, are now attached to India, besides other conterminous regions in different quarters.

HISTORY.

What was the original political condition of the vast territory now composing the British Indian empire, it would be needless to detail minutely. Like other portions of Asia, it was early inhabited by a primitive people, more or less barbarous, professing different pagan religions, and speaking many more different languages. The principal religion, however, was Hindooism, which we shall afterwards allude to; and it has been said by some historians that the early Hindoo race of inhabitants manifested many symptoms of civilisation, and even a knowledge of some of the sciences. However this may have been, the inhabitants generally were in some measure an industrious but simple race, and little inclined to war. Reasoning from what has occurred in their history, as well as from the information communicated regarding them, they seem, from the earliest times, to have had little or no care with regard to who ruled over them, provided they were ensured in the possession of their ancient religious usages, and their system of living in small communities, under a primitive species of local government. They were reckless of what sovereign was placed over them, or to what dynasty they were transferred, so long as the internal economy of their village districts remained the same. This species of political apathy produced the results which might have been expected. From the most remote period of which any record is preserved, the inhabitants of India, including those tribes which possessed more decided warlike propensities, or who had the spirit to resist aggression, were subjected to the government of strangers, who seized upon their territories, and made them the objects of taxation. Among other warlike princes who thus made inroads on the country, Alexander the Great, in the course of his ambitious career, marched with an army to India, the northern part of which he conquered.

Of this remote period of Indian history, little is correctly known; all that may be said of it is, that the Greeks and Romans were supplied with their articles of luxury from Hindostan, and many centuries this eastern clime was supposed ill-instructed inhabitants of distant parts of Europe, to be the richest and most sumptuous on the globe. The tales related of Indian appear to have in time excited the avarice tion of Mahommedan or Saracen chiefs. This barbarous though intrepid race, who made successful inroad upon India, was Mahmoud, Ghizni, or Affghanistan, a kingdom on the north India. Mahmoud commenced his successful tions into India about the year 1000, and he them till 1024, making the destruction of pagan more the object of his visits than the acquisition wealth or power. In this period of twenty-five he had subdued a considerable number of princes, and, notwithstanding his professions immense tributes in gold and every kind of commodity. A successor of Mahmoud, named med, after carrying on war with the Indian some time, at length, about the year 1193, Hindostan with an exceedingly large force, down all opposition. The king of Delhi was battle, and having advanced to that ancient Mahommed there left a viceroy to maintain rity. In this manner a Mahommedan dom for the first time established in the heart of in one of its greatest cities; and thus commenced Affghan or Patan sovereigns and their dynasty.

The dynasty so planted continued in existence rather more than three hundred years, when or 1526, it was subverted by Baber, who was one of the most adventurous warriors of his who, like his prototype Mahommed, was of the faith. Baber was either descended from a Tartar chief, or in some way, not clearly explained historians, connected with a race called Mogul assisted him in his attempts upon India; causes of this nature, the empire which he founded Hindostan has ever since been called the Mogul From the year 1526, a series of Mahommedan rors, whose seat of authority was at Delhi, largest and finest portions of India. By country was in many places newly subdivided vinces, and put under the government of tributary or nabobs, who superseded the Hindoo rajahs princes. One of the greatest of these Mogul was Akbar, who flourished between the years 1605. By his daring and judicious manager central provinces were preserved in complete lity, and Guzerat, Bengal, and part of the Deccan added to his already extensive empire.

While the emperors of India were thus est their power, multifarious schemes were formed Europe for getting possession of some of the not some portions of the territory, of Hindostan commodities of Indian manufacture or produce hitherto imported into the European states means of tedious overland journeys, or part Red Sea, and were endangered in their passage attacks of ferocious Tartar and Turkish tribes discovery of a new and safe road to India thus a matter of very great consequence. A route round the Cape of Good Hope was at last found Portuguese, who, under the command of Gama, in 1498, landed in Hindostan, on the Malabar, where they at once established the The whole commerce of the East Indies was in hands of the Portuguese for nearly a century—was the golden age of Portugal. Lisbon became great depôt of Indian spices and other commodities greatly to the envy of the Dutch and other Portugal was united to Spain in 1580—the Spanish oppressed Holland, and caused it to revolt—this was followed by the capture of the Dutch ships to Lisbon—and this capture compelled the

IES.

ple of one by taking part against another, and end getting the advantage of both. Besides, it t for some time that the British disclosed any on of securing the jurisdiction of provinces, or erty in the soil. A watchful hypocrisy led them d, on all occasions, a reverence towards the poli- way of the native emperors, rajahs, and nabobs. riginal East India Company, with its charters erent times disputed and renewed, continued hout the seventeenth century to carry on a pro- traffic with the East. Its factories were ex- to Java, Sumatra, Borneo, the Banda Islands, s, Malacca, Siam, the coasts of Malabar and andel. In 1640, the native authorities gave per- n for the building of Fort St George, at Madras; 1645, a factory was established on the banks of ughley, a branch of the Ganges near its mouth, formed the foundation of Calcutta. The island mbay was also procured as a settlement in 1654-5, a struggle with its Portuguese possessors. The of the Company were not, however, in a prospe- ate; and soon after the Revolution of 1688, the n of the validity of the old royal charter was . The consequence followed of the Company ing able to perform its obligations, an amount es occasioned by wars, infidelity of officers, ex- ance, &c.; and Parliament, in 1693, granted a r to a new East India Company, on condition of of £2,000,000 sterling to the state, and which quired to carry on King William's wars. But at contentions between the two Companies soon it necessary to unite them, and a union was d in 1702, when an act of Parliament was passed, shing the conjoined association under the title of ited Company of Merchants trading to the East Stock was raised by the sale of shares, and the olders to a certain amount were entitled to elect ectors of the Company.

progress of the Company's settlements in India several occasions about this period, caused by perior skill of the British in medicine. In 1715, assy being sent on a commercial commission to it happened that a medical gentleman named on, who accompanied the factors, had the good to cure the Emperor Feroksere of a severe ill- which could not be overcome by the ignorant physicians. In gratitude for this important ser- hough it is likely some very valuable presents e Company had an equally liberalising effect, the r granted liberty to the Company to purchase in thirty-seven townships in addition to that of a; he also conferred upon them some important rcial privileges, which soon rendered Calcutta a ing settlement.

charter of the East India Company was from time renewed during the eighteenth century, (but not without great difficulty) against a ul opposition. But loans to government carried lways through these embarrassments. In 1744, dvanced £1,000,000 at three per cent., in con- ion of an extension of their privileges till 1780. to we have seen this company of English mer- acting only for the avowed object of commer- ercourse with India; we now open a new page r history, and show the origin of their political

East India Company assumed the qualifications litary and political power in the year 1748. But dvances towards territorial dominion were re- by a rival, which gave them no small trouble. ompetitor was France, which had in the mean astened to share in the commerce and spoils of In 1746, a French battalion had destroyed the f the nabob of the Carnatic, and soon after the officers succeeded in disciplining Indian troops ng to the European method. The inferiority native Indian troops opposed to European sol- and the facility of instructing Indian soldiers, by the name of Sepoys, in the European tactics,

was thus proved. Ambition and avarice, political and mercantile cunning, could now act on a larger scale; and the independence of the Indian princes was gone whenever this trading Company, which was already encroaching upon all the rights, both of the rulers and the people of these countries, should establish a permanent military force. Thus far the military organisation of the Company had been merely on the defensive; it now became able to act offensively; and the entire difference of the European and Indian notions of law could never fail to furnish opportunities to put this new means of power into action. The rights of succession, and all the rights of princes, subjects, and families, were so much disputed on the different principles of the Indian, Mahommedan, and British laws, that the Company, which often interfered as arbitrator, easily succeeded in extending their legal jurisdiction. If called to account in England for any of its undertakings, it was easy to uphold the correctness of its conduct, politically, on the ground of self-defence, which at the distance of several thousand miles, could not be called in question; and, in legal matters, by taking advantage of the impenetrable labyrinth of the law. Edmund Burke, who experienced, in the case of Warren Hastings, the head of the Company's affairs in the east, this impregnability of the association, accused them justly "of having sold every monarch, prince, and state in India, broken every contract, and ruined every state who had trusted them." In 1749, the robberies of the Company began with the protection of the pretender of Tanjore, a fine province of the Carnatic. Under pretence of illegitimacy, the nabob of this district was driven out for the purpose of obtaining some cessions of territory, and then restored on making further concessions. The rapid progress of the Company in the art of extending their possessions, appears from their treaties with Surajee-Dowlah, the nabob of Bengal, whom they contrived to depose in 1757, when large and rich provinces were the reward of their faithless policy. The French, who in a similar manner had acquired considerable territorial possessions in the Carnatic, now came into collision with the British merchants, and a hot war was carried on in India between these contending Europeans. The indecency of this conflict as to which party should be the greatest robber, seems to have shamed both France and England, and commissioners were mutually sent to India to reconcile the differences which existed, as well as to check the acquisition of territory either by the English or French companies. As a matter of course, this affectation of justice ended in nothing. After the commissioners had agreed that each should restore its acquired territories, and after a "solemn" treaty to that effect had been arranged, hostilities commenced as before. It would be needless to recount the particulars of this struggle for power; it will suffice to state, that the French ultimately were deprived by the British of their possessions.

By the defeat of the French forces in 1761, the British were left at liberty to pursue their schemes on India, being in no small degree favoured by the unhappy political condition of the Mogul empire. This large empire came under the rule of Aurungzebe, a descendant of Akbar, in 1658, and his reign lasted till his death in 1707. Under this celebrated Mahommedan emperor, the empire of the Moguls came to the height of its glory, and attained its largest extent. After Aurungzebe had added to it the kingdoms of the Deccan, it included nearly the whole peninsula of Hindostan, with the neighbouring regions of Cabul and Assam. The revenues extorted from this populous and wealthy territory amounted to £32,000,000 sterling. During the reign of Aurungzebe, it was attacked by the Persians under the bold prince Nadir, and also by a growing nation, called Mahrattas, whose kingdom comprehended large portions of the provinces of Malwa, Candeish, Aurungabad, and Bejapore, in the Deccan. By Nadir, and his successor Ahmed Abdallah, the Mogul empire, after the death of Aurungzebe, was almost entirely subverted to the character of a tributary to the Persians. Under these circumstances there was scarcely a power that did not consider itself entitled to tra the feeble authority of the throne of the Mogu between the Affghans, whose kingdom lay to the west, and the Mahrattas, the empire was distract made the object of greedy contest. The Affgha at length victorious over their enemy; and in 17 placed a descendant of the old dynasty on the and in the possession of the empty but still ve title of Great Mogul, to be the tool or captive first daring power which should seize the capit

From this period the dignity of the empire w end, and a favourable opportunity was offered various dependent princes to throw off their all as well as to enterprising chiefs to take adva the unsettled state of things, and establish ne doms for themselves. In this state of general tion, a bold Mahommedan adventurer arose obscure rank, named Hyder Ali, who, by sum round him bold and predatory bands, and wag with considerable address, established his pow sovereign in the Mysore, a territory forming on most remarkable of those elevated table-lan diversify the southern provinces. Hyder was su in 1782 by his son Tippoo, a person equally bold less prudent and fortunate. Against both these rulers the British for a number of years waged various success. In 1792, Seringapatam, the c the Mysore, was besieged by the Marquis Co with a strong British army, and after some sh sistance, Tippoo was fain to offer terms of su He agreed to give up half of his dominions, £3,500,000 in bullion. For the fulfilment of th he was under the necessity of giving up two of as hostages. Having fulfilled his engagemen young princes were returned in 1794: but afte again commenced hostilities, and in 1799 the forces, under General Baird, once more attac now captured Seringapatam. In the general s which occurred in entering this strongly fortifi Tippoo was shot, and his body was afterward among a heap of the slain. Thus terminated a which, though short, and limited in respect of rial dominion, was undoubtedly the most vigo best organised of any that had sprung out of th of the Mogul empire. The principal war in w East India Company was engaged after this st contest, was that with the Pindarees, roving Mahrattas, who, without any territory, carried datory warfare against all whom they could impunity. The war with the Pindarees was great difficulty, and it cost the British a nu years before they finally quelled them. The l war terminated in 1817, and it was followed b test betwixt the British and the Birman empir was successfully closed in 1826, and by which t pany gained a considerable territory along th Bengal, east of the Brahmaputra river. By g going, and other less conspicuous contests wit princes, among which may be reckoned the wa the Nepaul, in 1814, and also by means of pe negotiations, and voluntary or involuntary resi territory, including the capture or cession by the French and Dutch settlements, the Britis was at length established as supreme over ne whole of India.

EXTENT AND POPULATION OF INDIA.

The following has been given by the best au as an estimate of the extent and population of ritories now included in British India:—

	Square Miles.	P
Presidency of Bengal, -	220,312	6
Madras, - - - - -	141,923½	1
Bombay, - - - - -	59,438½	
Districts, the population of which is doubtful,	91,250	
	512,923½	

lo another statement, the territorial extent are miles, and the population is 89,577,206. of the allied or protected, that is, the sub- estimated at 614,610 square miles; their wever, is not supposed nearly equal to that ries under the immediate government of Mr Hamilton, in the second edition of a Gazetteer, estimates it as follows:—

am, - - - -	10,000,000
poor Rajah, - -	3,000,000
g of Oude, - - -	3,000,000
kwar, - - -	2,000,000
ra Rajah, - - -	1,500,000
ore Rajah, - -	3,000,000
re and Cochin, - -	1,000,000
loondee, and Bopaul, -	1,500,000
and other petty states,	15,000,000
	40,000,000

author makes the following conjecture as that still remain independent:—

- - - - -	4,000,000
Rajah Runjeit Singh, -	3,000,000
- - - - - -	1,000,000
- - - - -	2,000,000
e and other districts belong-	
the King of Cabul, -	1,000,000
	11,000,000

give for the whole of India a population f 140 millions; but in the foregoing esti- is not taken of the portion of India beyond including part of the Burmese territory, ding to Mr Hamilton, an extent of 77,000 and a population of 301,000.

he Company have governed their Indian r means of the presidencies of Calcutta, Bombay, each of these places being the s of a local military and civil government. re will be another presidency, that of Agra, te in the interior. The whole are under control of a governor-general appointed h court; these governors-general seldom situations above a few years. Mr Pitt, in an act establishing a Board of Control, six privy-councillors, to superintend the ncerns of the Company, which check is d, and reappointed under the act of 1833. assession of so large a territory as India, require to keep up a numerous and well- med force, which is composed chiefly of poys, with British officers, and partly of in Great Britain. The Company further ber of queen's regiments, who have double them. Mr Hamilton gives the following the amount of the forces employed:—

illery, - - -	15,782
ive cavalry, - -	26,094
— infantry, - -	234,412
gineers, - - - -	4,575
en's troops, - -	21,934
Total, - -	302,797

irregulars of all descriptions amounted to

This formidable army of native and ldiers is distributed throughout Hindos- nted stations, forming a chain of military eeping up a continual communication with the various presidencies. Latterly, the roops may be different from that above 830, they amounted to 224,444 men.

ons which subsist betwixt the Company utary and dependent states may thus be The Company undertake the defence of it prince's territories against all enemies, foreign. He is bound, on the other hand, to enter into no alliances with other sovereigns or states without the Company's consent; and he pays them a certain annual subsidy out of his revenues for their protection, while he generally keeps up an army at the same time, for the maintenance of internal tranquillity. In some cases, instead of paying a subsidy, the prince cedes a portion of his territories, of which the Company draw the entire taxes. The Company keep a resident at the prince's court, who is entitled to demand an audience at any time; and by this agent, the Company do in fact interfere pretty regularly in the internal concerns of the state, particularly in settling the succession to the throne. The princes are in reality mere viceroys, or rather tax-collectors for the Company; and when in any state gross mismanagement or breach of engagement repeatedly occurs, these pageants are dethroned and pensioned off, and the Company take the government of the country into their own hands. The Company's protection is often found to shelter internal misgovernment; for the prince, being secured by the British army against the resentment of his own subjects, is tempted to indulge the more freely in extortion and oppression.

REVENUE SYSTEM OF INDIA.

To sustain not only the above military force, but the civil management of India, a revenue of £22,000,000 requires to be levied. About two-thirds of this large sum is derived from a tax on land; and as the mode of collecting, imposing, and administering it, enters deeply into the system of Indian policy, and has a powerful influence on the social condition of the people, we shall here attempt its explanation.

Under the old Mogul empire, the sovereign was considered the universal proprietor of the soil; but the ryots, or cultivators, or actual owners, were held to have a perpetual right of occupancy, so long as they paid the fixed annual tribute or rent demanded by the sovereign. The rent was fixed at a third, and sometimes at a half, of the value of the produce, and the functionaries appointed to ascertain the amount leviable, and to collect it, were called *zemindars*. In 1793, Lord Cornwallis, governor-general, with a view to establish a better system for all parties, changed the zemindars from the character of hereditary tax-collectors to that of proprietors of the soil, though still accountable to government for the rent. This created a vast deal of misery at the time; thousands of poor ryots were ejected from their ancient possessions; but ultimately the country at large was benefited. It was arranged that the sum payable by the ryot for several years, should be fixed as the permanent rent; one-tenth of this was allowed as the zemindar's share, and the other nine-tenths the proportion payable to the government or Company. The rent paid to the Company being fixed, great quantities of land which had been "concealed," that is, left out of the rough and partial returns formerly made, and which had lain in a wild state, or in pasture, were now put under crop. The practice is, to allow the ryot to occupy waste lands rent-free for three years, and to charge only a moderate rent for a few years more. In this way a considerable extension of cultivation has taken place; and some of the zemindars have acquired wealth. From their improvident habits, however, such wealth seldom lasts more than one generation; and no progress has been made towards the institution of a rural aristocracy. The Company have begun very recently to retrace their steps. When zemindaries fall into their hands, as they are always doing from time to time, by the inability of the holders to fulfil their engagements, the Company replace the ryots as nearly as they are able in their original situation, allowing them to hold their lands under payment of a rent which remains fixed, either permanently or for a period of years. The Company in this case come in the room of the zemindar, and collect the rents in detail from the ryots by their agents.

This system of "zemindary settlement" prevails generally in Bengal, Bahar, Orissa, and Benares. It

has also been tried on a small scale in the Madras presidency, but with very bad success; but in a modified form it has long existed in some parts of Southern India, where hereditary chiefs, called *polygars*, occupy a similar situation to that of the zemindars in Bengal.

There are other two modes of collecting the rent or land-tax (for it may receive either name); the *Ryotwar*, and the *Mouzawar*.

The ryotwar was first extensively introduced by the late excellent Sir Thomas Munro, when governor of Madras, in 1802. In this system, the government collects the rent directly from the ryots, without the intervention of zemindars. An actual survey was made, with great labour and expense, of the lands of the villages, in which it was attempted to fix the extent and value not merely of every occupancy, but of every field. The records showed the whole sum which the village had paid in former years; and from this, with the opinions of practised assessors, checked and guided by the advice of the village *potail* and *curnum* (the headsman and accountant), an estimate was formed of the gross produce, forty-five per cent. of which was assumed as the rent. The sum thus ascertained was fixed as the maximum which the tenant should be called on to pay. The rent is taken from the ryots in monthly payments, and very summary means are used to extort it. The system was extremely unpopular at its introduction, and occasioned great distress; but this was attributed to the excessive amount of the tax, rather than to defects in its imposition. The reader should be told, that the perquisites of the potail, curnum, brahmin, astrologer, schoolmaster, and a long train of other village functionaries, are supposed to absorb ten per cent. of the ryot's crop, so that the forty-five per cent. which government took in a good year, was, and was meant to be, one-half of the clear produce after this deduction was made. In consequence of the outcry against the tax, considerable abatements were made; and the ryotwar system remains in operation in a part of Madras presidency at this time, with, we believe, comparatively few complaints.

Village settlements.—The third system is the *Mouzawar*, or "village settlement." A village in India does not mean a collection of houses at a particular spot, but corresponds to what is called a township in America. "It is a tract of country (says Mr Hamilton) comprising some thousands of acres of arable and waste land; politically viewed, it resembles a corporation or township. Its proper establishment of officers and servants consists of the following descriptions:—The potail, or head inhabitant, who has the general superintendence of the affairs of the village, settles the disputes of the inhabitants, attends to the police, and performs the important duty of collecting the revenues within his village—a duty which his personal influence, and minute acquaintance with the situation and concerns of the people, render him best qualified to discharge: the curnum, who keeps the accounts of cultivation, and registers every thing connected with it: the *talliar* (constable), or *totie* (watchman); the duty of the former appearing to consist in gaining information of crimes and offences, and in escorting and protecting persons travelling from one village to another; the province of the latter appearing to be more immediately confined to the village, consisting, among other duties, in guarding the crops, and assisting in measuring them: the boundary man, who preserves the limits of the village, or gives evidence concerning them in cases of dispute: the superintendant of the tanks and water-courses, who distributes the water therefrom for the purposes of agriculture: the brahmin, who performs the village worship: the schoolmaster, who is seen teaching the children in the villages to read and write in the sand: the calendar brahmin, or astrologer, who proclaims the lucky or unpropitious periods for sowing and thrashing: the smith and carpenter, who manufacture the implements of agriculture, and build the dwelling of the ryot: the potman, or potter: the fisherman; the barber; the cowkeeper, who looks after the cattle; the doctor; the dancing girl, who att rejoicings; the musician, and the poet. These and servants generally constitute the establish a village; but in some parts of the country it i extent, some of the duties and functions above d being united in the same person; in others, it the number of individuals which have been de Under this simple form of municipal governm inhabitants of the country have lived from tim morial. The boundaries of the villages have b seldom altered; and though the villages themsel been sometimes injured, and even desolated, famine, or disease, the same name, the same lim even the same families, have continued for age inhabitants give themselves no trouble about th ing up and division of kingdoms; while the remains entire, they care not to what power it i ferred, or to what sovereign it devolves; its economy remains unchanged; the potail is head inhabitant, and still acts as the petty ju magistrate, and collector or renter of the villag

It will be understood that under the zemind tlement, the government transacts with one in for an extensive district, probably as large as a under the mouzawar or village settlement, it t with the chief person of the village for the wh munity; and, under the ryotwar settlement, i acts with each individual cultivator. It may b to add, that in India a ryot seldom holds m than he and his family are able to cultivate, a there are few farm-servants in our sense of the

Of the three modes of settlement, it may b that the zemindary plan has yielded the largest r the method of "village settlement" does no much more trouble to the government, and i liked by the cultivators; the ryotwar is the n pensive and troublesome, and has been the le ductive of revenue; but it would be the most e and most advantageous to the people, if the justice were not defeated by the frauds of th officers intrusted with its details, and whose co is almost universal.

The revenue derivable from land by these processes of exaction, amounts, as has been two-thirds of the whole revenue of the Company sum of £14,000,000. The next greatest head nue is the receipt from native princes, or fro and conquered countries, and which averages in from £7,000,000 to £8,000,000.

The Company have hitherto gained a million per annum by the monopoly of opium. Th offered a price annually, which has been fixe lowest rate that will remunerate the produc ryots, whose lands have been suited to the cul entered into engagements to deliver certain qu About two-thirds of the opium used to be smug China, until the Chinese stopped the importati one-third was sent to the eastern isles, Java, S &c. Salt has also been an article of valuable taxa has been manufactured on the coast of the Bay o exclusively for the Company. Before it rea consumer, its price is enhanced five, eight, or The Company have realised a gross revenu millions per annum from this monopoly.

The customs drawn by the Company consis of taxes collected at the seaports on foreig brought in, and partly of *transit* duties levied passing through the country. There are p duties paid in passing from one presidency to town duties on certain articles at the gates o and market duties levied at the market statio fairs are held. To collect these taxes, and guar contraband trade, there are customhouses, cal *kies*, at every considerable village. In the singl of Madura, with a million of souls, in Madra dency, there are twenty-one customhouses, which has four or five subordinate establishme at these stations, even when no duties are exig are charged by the native officers for the tr

amination, and a good deal of delay is caused in the ansmission of merchandise. These taxes are sources ' annoyance and occasional extortion to the trading asses. They produce a gross sum of £1,800,000, hich is reduced to £1,600,000 by the charges of col-ction, &c. We believe that a considerable portion of ie revenue derived from these duties on traffic is laid it by the Company in the construction of roads and ridges, where improvements of this kind are most anted.

erritorial Revenue of India, for the year 1829–30.

Mints,	£36,483
Post-office,	132,565
Stamps,	424,692
Judical (fees),	114,670
Land-revenue,	14,314,660
Customs,	1,837,127
Ceded territory,	569,676
Burmese cessions,	103,240
Salt,	2,421,619
Opium,	1,757,400
Marine,	61,769
Ava indemnification,	92,220
Bhurtpore,	34,800
Subsidies,	392,355
Bank profits,	8,640
	£22,301,946
Deduct over-estimation in land-revenues at Bombay,	247,500
Total revenues,	£22,054,416

In 1833–4, the annual revenue was £13,680,165, but iis large sum scarcely covered the expenditure, in-uding interest on the debt due by the Company, which t that time amounted to £35,463,483. As India, by ie taxes which it contributes to the Company, clears ie cost of its own protection and all its other expenses, may be considered as the only foreign possession of ritain whose connexion is not a cause of loss to the other country. By means of its vast import trade, idia forms one of the best customers for British anufactures, and is therefore a source of wealth to ie United Kingdom. In this respect, India has been lled "the right arm of England."

As may be generally known, an act of Parliament as passed in the year 1813, permitting the free trad-g of British subjects with India, reserving the com-erce of China to the Company; the territorial and mmercial branches were separated, as well as all ccounts connected with them; and the king was em-owered to create a bishop of India, and three arch-eacons, to be paid by the Company. This act, which as in force till the 22d day of April 1834, did not afford rfect freedom of trade to India, yet it led towards at desirable result, and greatly increased the com-erce with the East. By the act 3d and 4th Will. IV. ap. 85, passed in August 1833, entitled "An act for fecting an arrangement with the East India Company, id for the better government of his Majesty's Indian rritories, till the 30th day of April 1854," the com-any were deprived of the exclusive right of trading ith China, and ordained to close the whole of their mmercial business, and make sale of their merchan-ise, stores, and effects, so far as regarded commercial sets. It was further ordained, that the whole debts f the Company should be chargeable upon the revenues ' their Indian territories, but leaving a yearly divi-nd of ten per cent. to be retained by the Company; is dividend to be redeemable by Parliament. The ompany to pay into the Bank of England two millions nnually, till the sum of twelve millions is accumulated, s a security fund to the government. The other prin-pal provisions were—A board of commissioners, to be ppointed by the king, to superintend affairs of India; engal presidency to be divided into two presidencies -Fort William (Calcutta) and Agra; the whole govern-ent, civil and military, of India, to be vested in a vernor-general and councillors.

The 81st clause is in these terms:—"And be it enacted, That it shall be lawful for any natural born subject of his majesty to proceed by sea to any port or place having a customhouse establishment within the said territories, and to reside thereat, or to proceed to and reside in, or pass through, any part of such of the said territories as were under the government of the said Company on the 1st day of January 1800, and in any part of the countries ceded by the nabob of the Carnatic, of the province of Cattack, and of the settlements of Singapore and Malacca, without any license whatever; provided that all subjects of his majesty, not natives of the said territories, shall, on their arrival in any port of the said territories, from any port or place not within the said territories, make known in writing their names, places of destination, and objects of pursuit in India, to the chief officer of the customs, or other officer authorised for that purpose, at such port or place as aforesaid." Clause 86 permits his majesty's natural born subjects to purchase lands in India: 87 enacts that no native of India, or natural born subject of his majesty, shall, by reason only of his religion, place of birth, descent, colour, be disabled from holding any place, office, or employment under the Company: 112 enacts that St Helena be placed under his majesty's government.

By this act, it will be perceived that several very important provisions are made for the benefit both of Hindostan and Great Britain. India is henceforth open to the settlement of British emigrants; trade may be carried on freely with either India or China; and Indo-Britons, Hindoos, or other natives, are now placed on a level as to political, military, or civil distinctions, with Englishmen. It is stipulated that the governor-general in council is empowered to legislate for India, and for all persons, whether British or native, foreigners or others: if the laws thus made by the governor-general are disallowed by the authorities in England, they shall be annulled by the governor-general. In virtue of these arrangements, it is evident that India, with all its social improvements, retains very much of the character of a despotically governed country; no part of the population having any right to interfere in the legislation or executive. To enlightened foreigners this may prove an inconvenience; but, in the extraordinary condition of the whole Indian territory, a more liberal policy would most likely be unsuitable if not injurious. As it is, England may expect to derive very great advantages from the policy pursued. To use the words of Dr Wallich, superintendant of the Company's botanic gardens at Calcutta—"The Company's territories in India are productive of every article which can conduce to the happiness of men; and it only requires skill, and ingenuity, and encouragement, both to the natives and Europeans in India, to select every thing that can possibly be desired." As the Indian population possess a taste for British manufactures, a reciprocal benefit will be the result of every increase of intercourse.

NATIVE POPULATION—HINDOOS.

The bulk of the population of India is composed of Hindoos, the primitive inhabitants of the country, and forming one of the most ancient nations in the world. This race was distinguished for their humanity, gentleness, industry, and were polished by letters and arts, at a time when most of their Asiatic neighbours were yet only in the first stages of civilisation. This remarkable people have preserved their national character for thousands of years, even under the dominion of foreigners, and have retained to the present day their language, their written characters, their local government, religion, manners, customs, and habits of life. The Hindoos are in general of a brownish-yellow complexion, but the higher and richer classes are almost as white as Europeans. They are somewhat above the middle height, well proportioned, and very flexible and dexterous. Temperance, frugality, hospitality, and obliging manners, are the favourable traits in their character; but they are now reproached with indolence

and avarice. With proper discipline, they form excellent soldiers and faithful servants of the Company. They possess great natural talents, but are at present deprived of opportunities for their developement. They practise agriculture, breeding of cattle, fishing, hunting, and mining, and are largely engaged in manufactures, commerce, and navigation. They manufacture cloths of great variety and value, particularly cotton and silk, among which are the finest muslins and shawls, mats, cordovan leather, &c., and are inimitable in dyeing. In the arts of music and singing they are backward, but in dancing, statuary, and architecture, they are more advanced. They are acquainted with arithmetic, astronomy, and chronology, and are fond of poetry.

The most extraordinary peculiarity in the Hindoos is their division into *castes*, or perfectly distinct orders of society, which have existed from the remotest times. There are four castes, and it is strictly enjoined by the Hindoo religion that no transition from one to another shall take place; no connexion between them by marriage or any other way is allowed, and no individual of one class can assume the habits or engage in the occupations of another. The distinction is complete in every sense, hereditary and personal; all the privileges or disabilities are inherited; no one is permitted to become what he is destined to be by his natural abilities, but is obliged to become only what his birth permits, or to remain what it condemns him to be. The slightest transgression of these laws is punished with loss of caste, and sometimes, in particular cases, with death. Even the difference of food is precisely marked out. The three higher castes are prohibited entirely the use of flesh; the fourth is allowed all kinds except beef; all others are outcasts, and may eat what they please. Thus, the lower the rank of the Hindoo, the less he is restricted in his meat and drink; but, on the other hand, the burdensome restrictions increase with the inferiority of rank.

The first, or most noble caste of the Hindoos, are denominated Brahmins; they are priests, scholars, teachers, lawyers, and state officers, and are required to be virtuous, learned, peaceable, just, and self-denying. The second order is the Kyetra, who are kings and warriors; and they are required to have a thirst for glory, to die rather than retreat, and to be generous to captives. They preserve the ancient name of rajaputs, by way of distinction, in their old hereditary dominions. The third order, which is called Bhysya, or Vaisa, are husbandmen and merchants. The fourth caste is that of the Soodras, who are labourers, and they are enjoined to serve with patience and fidelity. A lower caste, if it can be called such, are the Parias—those unhappy beings who have lost their station in the noble orders, and who are obliged to do whatever no one else can do without pollution. They are not only reckoned unclean themselves, but they render unclean every thing they touch. They are deprived of all civil privileges, and stigmatised by particular laws, regulating their mode of life, their houses, and their furniture; they are not allowed to enter the temples of the other orders, but must worship by themselves. Their houses are miserable hovels, distant from cities and villages.

The Brahmins, who are not legitimately entitled to possess property, and who must live upon the bounty of others for their support, cherish in the people the most debasing superstitions, and exact from them the most profound veneration. Instead of being holy, harmless, and undefiled, they are vicious, tyrannical, avaricious, and to the last degree impure. This infamous aristocracy is the curse of India, and presents a barrier to the attempts which have been made to meliorate the condition of the inferior orders. We believe the Kyetra and Bhysya castes are nearly extinct, and that the Hindoo nation is now composed principally of Brahmins and Soodras, with their subdivisions. These subdivisions are innumerable:—Every trade, every peculiar department of service, has its class, wherefore the retinue of servants to be kept is very large; for the man who carries in your water cannot wait at table, nor the man who cooks a dinner serve it up, nor the who waits at table sweep the room; and the s of classification goes on through all the pursui In a number of instances, Brahmins have soldiers in the service of the East India Comp without engaging in menial employments; and claim precedence even of kings, in point of This rigorous classification of the Hindoos und presents an obstacle to the advancement of Chr which, though hardly thought of by the British is next to insurmountable, and will retard pr for an indefinite period. The Hindoo who b Christian loses his caste by partaking of th Supper, and it therefore requires an extra strength of mind to make a profession of fait gospel; for by losing his caste in this or any o no one will speak to him, or touch him, or intercourse with him—his own wife and family own him—he becomes a Paria, a dog.

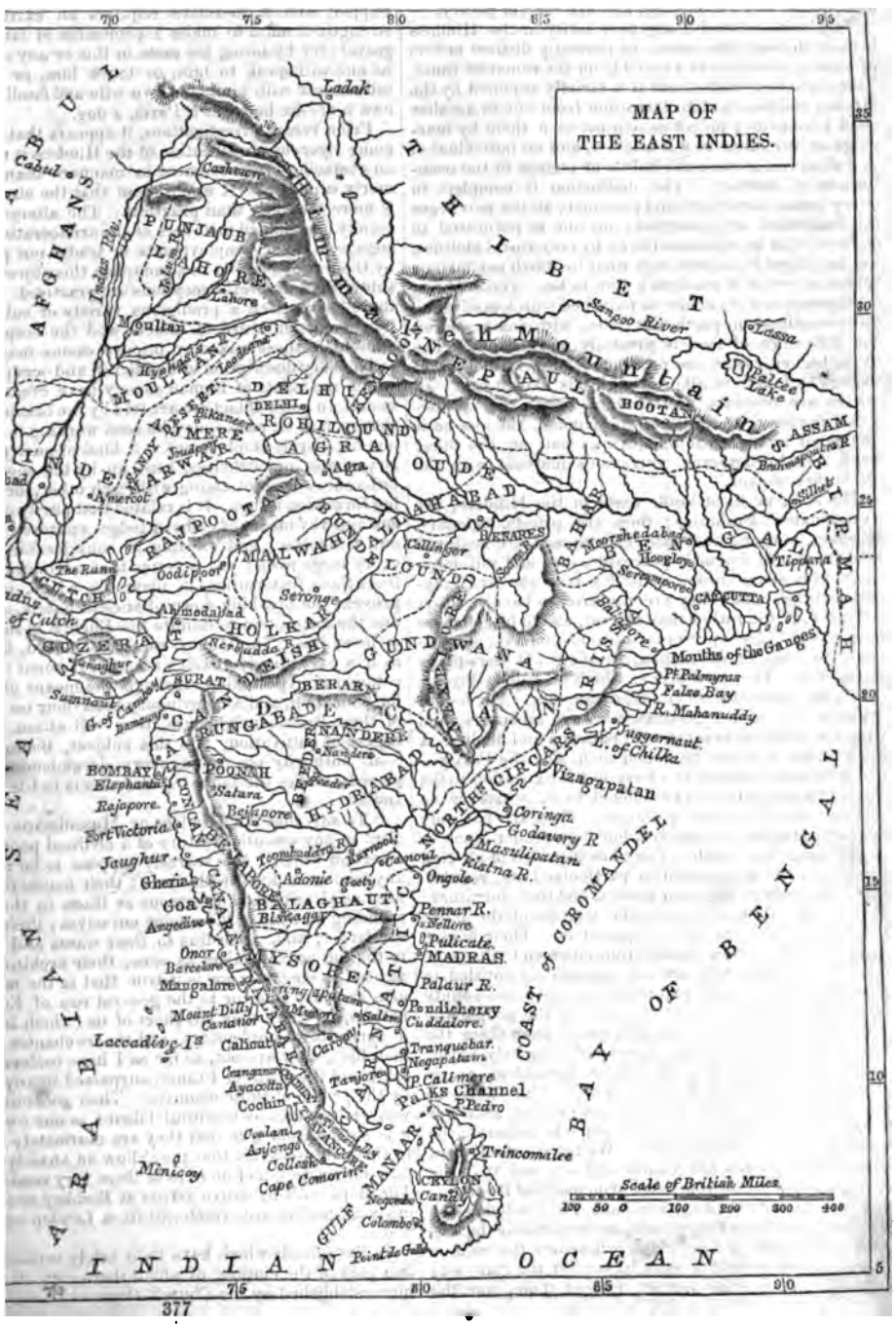
From recent investigations, it appears that going rigorous classification of the Hindoos is n an obstacle to improvement in manners than merly supposed. It would seem that the clas is more theoretic than practical. The altered society has obliged members of the aristocratic engage in divers employments or trades not p by their religion; but to accomplish this object subterfuges and self-deceptions are practised. there have arisen a prodigious variety of sub by the intermixture of castes; and the emp allowed to these mixed or impure castes may to be every description of handicraft and occup which the wants of human society have creat mand. In point of fact, we are told by the best a that men of all castes may be seen working to one handicraft employment. A kind of purity is perhaps, nevertheless, kept up by the me different castes not eating with each other, or ing forbidden things. It is related that purity o sustained by means of clubs or lodges scattered out Hindostan, and existing in considerable every large town; yet it seems that excommu from these fraternities, is, upon the whole, u prevent the breaking down of ancient habits, o due the disposition to imitate the English in th civilised life. The Hindoo races are, indeed, d as now exceedingly anxious for improvement; rational to expect, that, through the means o for education, and a conciliatory behaviour on of their British neighbours, they will attain degree of cultivation. On this subject, Bisho —an authority on whom every dependence placed—makes the following statements in his India:—

"To say that the Hindoos or Mussulmans cient in any essential feature of a civilised peo assertion which I can scarcely suppose to be any who have lived with them: their manner least as pleasing and courteous as those in th sponding stations of life among ourselves; thei are larger, and, according to their wants and to the full as convenient as ours; their archite at least as elegant; nor is it true that in the m arts they are inferior to the general run of E nations. Where they fall short of us (which i in agricultural implements, and the mechanics mon life), they are not, so far as I have under Italy and the south of France, surpassed in an by the people of those countries. Their goldsm weavers produce as beautiful fabrics as our ov it is so far from true that they are obstinately to their old patterns, that they show an anxiet tate our models, and do imitate them very succe The ships built by native artists at Bombay are ously as good as any which sail from London o pool.

In the schools which have been lately establ this part of the empire, of which there are at nine established by the Church Missionary, an

ristian Knowledge Societies, some very unex-
cts have occurred. As all direct attempts to
he children are disclaimed, the parents send
iout scruple. But it is no less strange than
; there is no objection made to the use of the
New Testament as a class-book; that so long
chers do not urge them to eat what will make
: their caste, or to be baptised, or to curse
ıtry's gods, they readily consent to every thing
: not only Mussulmans, but Brahmins, stand
perfect coolness, and listen sometimes with
interest and pleasure, while the scholars, by
the roadside, are reading the stories of the creation and of Jesus Christ.

The different nations which I have seen in India (for it is a great mistake to suppose that all India is peopled by a single race, or that there is not as great a disparity between the inhabitants of Guzerat, Bengal, the Dooab, and the Deccan, both in language, manners, and physiognomy, as between any four nations in Europe), have of course, in a greater or less degree, the vices which must be expected to attend on arbitrary government, a demoralising and absurd religion, and (in all the independent states, and in some of the



districts which are partially subject to the British) a laxity of law, and an almost universal prevalence of intestine feuds and habits of plunder. Their general character, however, has much which is extremely pleasing to me: they are brave, courteous, intelligent, and most eager after knowledge and improvement, with a remarkable talent for the sciences of geometry, astronomy, &c., as well as for the arts of painting and sculpture. In all these points they have had great difficulties to struggle with, both from the want of models, instruments, and elementary instruction; the indisposition, or rather the horror, entertained, till lately, by many among their European masters, for giving them instruction of any kind; and now from the real difficulty which exists of translating works of science into languages which have no corresponding terms."

RELIGION OF THE HINDOOS.

The religious belief of the Hindoos is called Brahminism, and is founded on a most extensive collection of sacred records, of which the Brahmins are allowed to be the sole expounders. "These sacred writings (says Mr Statham, in his 'Indian Recollections') are of two kinds—the Vedas and Shastres. The former may be termed their Scriptures, the latter expositions of them. Beass Muni (that is, Beass the Inspired), a prophet who lived in the reign of Judistheer, on the banks of the Jumna, near the present city of Delhi, collected all the detached pieces which form the Vedas, from all parts of India, and gave them their present form and arrangement. They are divided into four books, all written in the Sanscrit. The first book is called Rug Veda, which signifies the Science of Divination, concerning which it principally treats. The second is distinguished by the title of Sheham, which signifies Piety or Devotion, and this book treats of religious and moral duties. The third is the Judger Veda, which, as the word implies, includes the whole science of Religious Rites and Ceremonies. The fourth is denominated Obater Bah: in the Sanscrit, *obater* signifies the being or essence, and *bah*, good; this, literally interpreted, is the knowledge of the Good Being, and accordingly this book comprehends the whole science of theology and metaphysical philosophy.

The Vedas, as also the Shastres or commentaries, pretend to great antiquity; so much so, that many Europeans have been strangely staggered in their belief of the Mosaic chronology by reading them. But it only requires a little consideration and research to discover a vein of imposition running through the whole of their details. They reckon the duration of the world by four ages, or *jogues*, extending altogether to about eight millions of years; but the fallacy of this reckoning has been fully exposed by astronomical observation.

The idea which the Shastres give of God, is that there is one supreme Being, whom they style Bhogabon or Esher, sometimes Khodah; proceeding from him, are three powers or deities, namely, Bruhmha, the Creator of all; Vishnu, the Preserver of all; and Seeb or Sheva, the Destroyer of all. Now, whilst the latter is worshipped by all, the former has scarcely any attention paid to his temples; and even Vishnu, the Preserver, has few votaries compared with the destroyer Seeb. Subordinate to these are 330,000,000 inferior gods and goddesses, each representing some peculiar virtue or vice. The Hindoos suppose that each of the three presiding powers oftentimes seeks to encroach upon the prerogative of his compeer, and thus are often quarrelling and seeking to subvert each other's arrangements."

One of their most superstitious practices consists in worshipping or deifying the waters of the Ganges. This large and beautiful river extends from west to east across an extensive district in Hindostan Proper, and with its tributaries may be reached by a very large proportion of inhabitants in the most populous and productive part of India. The sacred ceremony of adoring the Ganges consists in the population crowding morning and evening to bathe in it, and quantities of the water are carried to all parts of India sworn by in courts of justice. "At Allaha tinues the above entertaining writer), where th of the Ganges and Jumna unite, the country miles round is considered sacred ground; an is the number of pilgrims who resort thither ing, that the vizier has received in one year of rupees for permission to enjoy the benefit sion in the sacred flood. Many are the lives here annually. The persons who thus fall their superstition are generally females, who all parts of the country to perform the tragic who show a firmness of purpose worthy a be Several of them, accompanied by the priest in a boat, and proceed to the spot where th unite, when each of the victims in succession from the boat to the river, with a large ea fastened to her body, and is supported by a she has filled the pan with water from the str the priest lets go his hold, and she sinks to ris amidst the applauses of the spectators, whilst mins enjoy the scene, and extol the fortitude victim to her who is about to follow."

The cow is an animal held sacred among doos, and cow-dung is used in the temples places as a species of holy ointment. The lot with tall luxuriant leaves, is likewise held in ration. Some of the temples or pagodas of th are of high antiquity and gigantic conception appearance, and tasteful architecture. The always made in a huge pyramid, in a number which gradually grow narrower as they app top. Inside may be seen the cow lying down, or some other object of adoration. Here sacr place. One of the most extensive pagodas that of Juggernaut, whose towers are seen miles' distance. Here, as at other places, processions of idol cars, large heavy ornamen tures, which are dragged along by the multi the shouts of assembled thousands. As the w swiftly on, self-devoted victims rush forwa themselves before them, and are crushed exulting in the hope of thus securing a pass celestial abodes. The practice of widows themselves on the funeral pile of their hus another horrid rite; but it has been suppres cent times by the British government.

Besides Brahminism, there are a variety of beliefs and sects in India, but all less or mor on the most gross superstitions. Each pos own temples, images, and orders of priestho Boodhists, previous to their violent expulsi Hindoos, were second in point of numbers; religion is now little known in India, and is chiefly to Thibet, Birmah, Siam, and Ceylon.

INDIAN LANGUAGES.

There are, it is believed, four original lan India, and of these there are some hundreds o differing less or more from each other and originals, and maintaining also a partial distinc the introduction of Arabic, Persic, and othe words. While, however, each tribe has its o liar dialect, all use one language, the Sanscrit sacred writings. The Sanscrit is a dead languag probably once spoken; it is wonderfully perf construction, and extremely copious. Its al called *Devanagari*, divine alphabet, because to have had its origin from the gods, whose it is; it consists of fifty letters, and has three The next language in estimation is the Prace comprehends the various dialects used in comm ing and social intercourse. The dialects of th are spoken in Bengal, and include that which Hindostanee, the principal spoken tongue in I

MAHOMMEDANS AND OTHER CLASSES.

According to Mr Hamilton, "the modern medans may with safety be estimated at on

total population; and notwithstanding the sub- of their political predominance by a Christian their religion continues to expand. They are er, however, the sanguinary zealots who, eight d years ago, in the name of God and the prophet, desolation and slaughter among the unconverted . Open violence produced little effect on so a people; and although the Mahommedans sub- tly lived for centuries intermixed with Hindoos, ical change was produced in the manners or of the latter; on the contrary, for almost a cen- st, the Mahommedans have evinced much defe- o the prejudices of their Hindoo neighbours, and g predilection towards many of their ceremo- The warlike portion of the Mahommedans hav- ently been dislodged by the British from the tta courts, where they had found shelter, they een obliged to seek employment in inferior sta- The Mahommedans of India are more intelli- nd possess greater strength and courage than ndoos; but they are also more proud, jealous, re- l, and rapacious, and their fidelity is much less n by the British government. In some districts hommedan population is nearly as numerous as the Hindoos, and both seem to live in a state of amity.

les the Hindoos and Mahommedans, there are scattered tribes in India, of a very different er from either, and often inhabiting mountainous f country, and called Garrows, Monguls, Tartars, mong the different races is found that of the s or Persians, the ancient worshippers of fire, ce driven from their native country by the per- g sword of the Arabs. Many of this people are , and they take the lead in the commercial tran- s of Bombay, Surat, and other north-western Their general conduct is quiet, orderly, and able.

rithstanding what has been related of the strict- the Hindoos regarding modes of living, they iable to fall in with European usages. In Cal- nd other large towns, many of the wealthy imitate the British in their dress, household re, equipages, and style of living, and show a desire to mix in their social parties, to which, r, they rarely find access. The English take s to conciliate the friendship of the native tribes, er well behaved and intelligent they may be. his foolish, surly, national pride (says Bishop), I see but too many instances daily, and I am ceed it does us much harm in this country. We t guilty of injustice, or wilful oppression, but we ut the natives from our society, and a bullying, nt manner is continually assumed in speaking to " The exclusiveness of this species of hauteur is ps fully more remarkable with respect to that of persons who have drawn their origin from the ourse betwixt the English and natives. These British, as they are called, form a part of the lation of Calcutta, and are a very interesting and sing people. "Many of them (says Statham) ery opulent, and others can vie with the more ited of their European neighbours in literary inments; notwithstanding this, there is a marked mpt shown them by Europeans generally. If a pean lady should wed with an Indo-Briton, the s of all the higher circles would be closed against however rich the man of her choice might be." state of things will happily be modified by the isions of the act of Parliament already narrated.

RURAL CHARACTERISTICS AND PRODUCTS.

the large and fertile territory of Bengal, as well all other parts of India where the cultivation of il is pursued, the art of the husbandman is, as be expected, still in the rudest state; and in every er there exists great room for improvement, which ng could so well facilitate as the settlement of igent European families. In the inundated dis- tricts of Bengal, rice is the main crop which is raised, at least during the wet season: it grows to its greatest height while the lands are overflowed, and is frequently reaped by men in canoes, the ear only being cut off, and the stalk left. When the peasants go to market during the height of the flood, they take their families with them, lest the house should be washed off during their absence with the boats. Rice is the summer crop, requiring much heat and moisture; but during the cool dry season, from November to April, they sow and reap another harvest, consisting of wheat, barley, or different kinds of pulse: this is called the *dry crop*, because it is reared without flooding the lands; the rice being considered as the *wet crop*, for a contrary reason. There are, therefore, two seedtimes and two harvests in this rich country. Besides these regular crops, many small grains are sown, which are limited to no particular season of the year, and which reward the industry of the Indian cultivator with a rich vegetation at all times.

Besides the different kinds of grain, the farmers of Bengal raise a number of other products, of great value. Of these, one of the principal is indigo: this is a small plant, shrubby in its growth, but in its leaves and flowers very much like the common tares of this country; it is sown during the rains, and raised in rows or drills. The leaves only are useful, on which account it is cut repeatedly, without being allowed to flower, which would make it drier and less juicy. The leaves are steeped and beaten in a vat among water; after which the liquid is strained through cloths, and set to evaporate in shallow troughs placed in the shade. This is soon effected in that warm dry climate; and the indigo is then found deposited in a crust at the bottom. The process requires much preparation and expense; and it has only succeeded well since the country has enjoyed peace, and there has been a prospect of employing large capitals with security. It now produces, however, a large return to the cultivators; and gives a new source of wealth to the country. It is cultivated along the whole course of the Ganges up to Delhi, and is an annual in the lower, but a triennial in the upper provinces. It succeeds best on overflowed grounds, and in dry seasons is apt to fail. The number of factories of indigo in the Bengal presidency is estimated at 300 or 400. A few of them belong to natives; but they are chiefly in the hands of Englishmen, who take leases of ten or twenty thousand acres of land in the name of native servants (not being allowed to hold it in their own) from a zemindar, for the purpose. They encourage the ryots (native cultivators) to raise crops of the plant, by making advances to them in money. They purchase the produce at a price agreed on, and erect works for extracting the dye from the plant; the whole of the operations being generally conducted by native labourers, under native superintendants. It is observed that the establishment of such factories raises the value of land, extends cultivation, and spreads a certain degree of improvement in the villages. The importation of Bengal indigo into Britain began about forty years ago, and has since increased to an amazing extent. Mr Crawfurd calculates that about 9,000,000 lbs. are annually exported from Calcutta, of which 7,000,000 lbs. come to Britain, and the rest goes to America, France, Germany, Sweden, &c. About £1,680,000, he thinks, are expended for rent and labour in its production, and it realises in Europe a sum of £3,600,000. In the countries named, Bengal indigo is silently obtaining a preference over every other.

Silk is raised in great quantities in Bengal and Orissa, between the latitudes of 22° and 26°, and it has hitherto been very nearly a monopoly in the hands of the Company. It is chiefly produced by the native Indian worm, which affords four crops, or sometimes six in the year: the Italian worm, which was introduced half a century ago, yields only one crop a-year, but of a finer quality. The Indian silk, compared with the best European varieties, is "foul, uneven, and wants staple;" but its cheapness has brought it into extensive consumption.

The Company have eleven factories, or "filatures," which form the centres of "circles," within which the cultivation of silk is carried on, each having a certain number of subordinate stations. The silk, in the raw state, is purchased from the ryots at the factories or sub-factories, wound off the cocoons, and prepared for transmission to Europe. About 1,800,000 lbs. are annually brought to England, of which a very small quantity (one per cent.) is equal to the finest silk; the mass of it is decidedly inferior. There is strong ground to conclude that, under the new act, the production of silk in India will be greatly increased, and its price in Great Britain lowered.

Cotton has long been cultivated by the natives in all the three presidencies. It is universally of the kind called "short staple," and being coarse in quality, and badly cleaned, it fetches only two-thirds of the price of American short staple in the British market. The best quality comes from Bombay (the Guzerat); the next from Madras; and the worst from Bengal. The cultivation being entirely in the hands of the natives, is rudely conducted; and, in particular, pains are not taken to renew the plant constantly from the seed, as the Americans do with the most advantageous results. Experiments have been made under the sanction of the Company, and by private individuals, to introduce and cultivate finer species than those in use, but they have generally been failures. There is no doubt, however, that by the introduction of European capital and skill, the quality of Indian cotton may be much improved, and what is raised sent to the market in a much cleaner and better condition. The exports of cotton from India to all countries amounted in 1827 to 68,000,000 lbs., of which only a third part came to Great Britain.

The cultivation of the sugar-cane is pursued with great success in Bengal and other parts of India, but chiefly by the natives, for domestic use. The process of bruising the canes is on a rude plan, and the sugar which is produced is from this or some other cause very inferior to the sugar of the West Indies. In no article of produce is there greater room for improvement than in this. The cultivation of the cane requires great care and skill, and the mechanism for extracting and preparing the sugar can only be erected at a great outlay of capital. It is anticipated that when Europeans are permitted to hold lands freely, and to embark capital on sugar plantations, sugar of good quality may be manufactured much cheaper than in the West Indies, where the price of labour is much higher.

The bamboo, a species of cane or reed, is much cultivated in Bengal. It grows to the amazing height of forty feet; and though it arrives at perfection in two years, it has all the firmness of the hardest timber. It has joints like a reed, or like grass, and is, like them, quite hollow; yet it is so strong that the porters of the country use it for suspending the heaviest burdens between their shoulders. It is used for beams and uprights in building houses; and being protected from damp by a kind of natural varnish, it will last in such situations for a hundred years. It serves also for making bridges, for the masts of small boats, and for innumerable other purposes; yet of this useful material, one acre of land will yield ten times as much as the same space will produce of other wood. None of the productions of India puts so many conveniences, in regard to furniture, houses, boats, &c., within reach of the poorer classes, as the bamboo. It would require a large space to mention even the names of the plants useful to man, which flourish in the luxuriant soil of Bengal. Cotton, tobacco, the opium poppy, rape (which is cultivated for the sake of its oil), cucumbers, vegetable marrow (as one of the gourd tribe is called), and innumerable other plants, always afford a plentiful harvest. Of fruit-trees, there are the mango, which is something like our peach, the date-tree, the vassia, the guava, the pomegranate, and others. Another production, which is peculiar to warm climates, and which grows in high perfection along the sea-coasts, is the cocoa-palm. This tree would of itself be almost sufficient for the subsistence of mankind in the countries where it grows, so various and useful are its products; indeed, there are some populous islands—the Maldives and Laccadives—on the coast of India, where little else is cultivated.

In the interior of India, the tea-plant is said to flourish, and is likely to become of great importance to the trade of the country. Districts lying between the 26th and 28th degrees of north latitude, and the 94th and 96th degrees of east longitude, are described as possessing this shrub in abundance, and of a quality equal to that of China. In Assam, which lies between Bengal and Thibet, the attempt has lately been made to cultivate and gather the product of the tea-plant for purposes of commerce. In 1838, ninety chests of it were imported into London, and found to be of a good quality. Persons skilled in the gathering and preparation of the leaves have been introduced from China; and there seems little reason to doubt that Assam is capable of producing tea to any extent, if sufficient capital and enterprise were exerted in the undertaking.

ANIMALS.—CLIMATE.

India possesses a variety of animals, both quadrupeds and birds, which are found in no other region. Among the quadrupeds, the most conspicuous is the elephant, which affords amusement in the hunting, and which is of great service, when tamed, in carrying persons on its back, in an ornamental and commodious seat fitted up for the purpose. The tiger is found in the low marshy regions, or jungles, and is also made the object of hunting; but this ferocious animal is now becoming of rare appearance, except in the remote parts of the country. India abounds in monkeys, and has some peculiar races of dogs. When English-bred dogs are taken to the country, they speedily degenerate. In the forests, deer of different kinds, and a race of antelopes prevail. There are also various descriptions of oxen, among which is the white or sacred bull and cow. There are many splendid specimens of birds, as shining creepers, the ring-necked paroquet, lories, cockatoos, parrots, and other highly coloured feathered animals. There are likewise vultures, bustards, peacocks, and nearly all the game birds and poultry of Britain. India and its islands possess many dangerous reptiles, as crocodiles, lizards, and poisonous serpents or snakes, all of which are more or less found about rivers and marshes, and render bathing in the waters by no means safe. India has also many remarkable insect tribes, one of which, the kermes, produces a fine scarlet dye. Fish, of an immense number of varieties, abound in all the streams and waters, and are frequently of exceeding brilliancy in colour.

The climate of India, though in some high districts salubrious and pleasant, is, on the whole, ill suited to the constitutions of Europeans. There are three seasons—the rainy, cold, and hot: the rainy in general extends from June till October; the cold from November till February; the hot from March till May. During the rains the climate is unhealthy. The temperature of the atmosphere ranges during the hot months from 72° to 105°. At Calcutta, the temperature varies throughout the year from 69° to 89°, but is more commonly about 82°. At Bombay, the temperature is generally somewhat higher; and at Madras it is higher still, the Carnatic being a dry and hot region. This general hotness of India, and the insalubrious character of the rainy season, produces not only discomfort, but renders Europeans liable to fevers, diseases of the liver, and other complaints not common in England. To accommodate invalids, the East India Company have fitted up sanatory stations at certain parts of the country, on the higher grounds, where the air is cool and agreeable; but these places cannot always be depended on by the enfeebled functionaries of the Company, and visits to England are often necessary for the preservation of life. In consequence of the heat of the climate, Europeans amply provide themselves with light cotton garments, which are universally worn as undress.

n made in and about Calcutta, jungles being cleared
ay, streets drained, and stagnant water removed.
ough the situation of Calcutta has not been well
sen, it is excellently adapted for commerce. At
h water the river is here a full mile in breadth.
e advantages possessed for inland navigation are
siderable; foreign imports may be transported with
at facility, on the Ganges and its tributaries, to the
th-western quarters of Hindostan, while the valuable
ductions of the interior are received by the same
annels. There is at all times a vast quantity of
rchandise deposited at Calcutta, and the trade car-
d on is now very extensive. Besides a government
nk, there are three private banks, which circulate
a considerable amount. There are several daily,
ee-a-week, and weekly newspapers published. The
ligious, and charitable, and educational institutions,
numerous and of great service. Society in Calcutta
ay and splendid; and the British inhabitants among
ir own class are described as hospitable, though
lous of etiquette, and of an overbearing disposition.
ere are no hotels, or inns, or lodging-houses of any
cription—a want which appears perfectly amazing
nd all strangers, male or female, must be provided
h introductions to the houses of residents. The
enses of living are very considerable; and as there
now no more opportunities of acquiring wealth by
spoliation of native principalities, fortunes are much
lomer realised than formerly. There being also
w fewer deaths, there are fewer chances of promotion.
cording to Mr Hamilton, "Without being attached
some department of service, or trained up to some
chanical trade, there is little hope of prosperity to a
ng man migrating on chance from Europe. Here
the inferior situations of clerks, overseers, &c., are
essarily occupied by the natives; and it is by these
dations in Europe that young men rise to opulence
the commercial world." The population of Calcutta
composed of about 14,000 Christians, 48,000 Mahom-
dans, and 120,000 Hindoos; but this is the amount
y within the city proper. If the environs or suburbs
included, the population will amount to perhaps
,000; and so densely peopled is the surrounding
rict, that within the circuit of twenty miles there is
opulation of nearly two and a half millions.

Serampoor, a Danish settlement, about twelve miles
ve Calcutta, is the head-quarters of the missionaries
t from Europe, and here a printing-press has been
blished, from which Bibles in a great variety of
guages have been issued. The missionaries also
e conduct a college for the education of native
ristians, Hindoos, or Mahommedans. The enterprise
l judicious exertions of the missionary body at this
ce cannot be sufficiently commended.

Madras, the seat of government of Southern India,
situated in the Carnatic, on the shore of the Bay of
ngal, in latitude 13° 5′ north, longitude 80° 21′ east.
e shore is here low, and dangerous to approach by
sels. On the beach stands Fort St George, a place of
siderable strength, and which may be easily defended
a small garrison. A noble range of public edifices,
luding a customhouse and court-house, also adorn
at is called the north beach. Madras differs in ap-
arance from Calcutta. It has properly no European
n, the settlers residing in their houses in the midst of
dens, and transacting business in the district appro-
ated to the residence of the natives. The principal
urch in Madras, St George's, is a beautiful edifice.
ere are many excellent charities here; and the school
male and female orphans, into which the philanthro-
Dr Bell introduced the Lancastrian system of edu-
ion, is superior to any thing of the kind in Calcutta.
e society of Madras is more limited than that of Cal-
tta, but the style of living is similar. The roads in the
inity are excellent, and afford most agreeable drives
the European residents. According to Heber, "the
tive Christians are numerous and increasing, but are,
fortunately, a good deal divided about castes." The
menians are here numerous, and some of them

wealthy. A Scotch Presbyterian church is now erected. The population of Madras and its suburbs has been stated at upwards of 400,000.

Bombay, the seat of government for the western parts of India, is a small rocky island, lying on the west coast of Hindostan, in latitude 18° 56′ north, longitude 72° 57′ east. Bombay was originally some hilly rocky islets, but these, by the influence of the high tides, have been joined to each other; and now the island is composed principally of two unequal ranges of whinstone rocks, extending from five to eight miles in length, and at the distance of about three miles from each other. All the ground that can be cultivated is now laid out in agriculture, and the remainder is either barren or covered with the residences of Europeans and natives. These residences are on wet, low, and unhealthy grounds, ever below high-water mark; and from this and other circumstances, Bombay is described as being the most insalubrious of the presidencies. The fort of Bombay is situated at the south-eastern extremity of the island, on a narrow neck of land. The chief advantage of Bombay is its deep tide water, which permits the most extensive system of maritime trade: excellent docks are erected for the accommodation of the shipping. Bombay is the seat of very extensive trade with the Persian Gulf on the north, as well as with the south of India. Cotton is the principal article of export. The population is stated at about 160,000, composed of Christians, Jews, Mahommedans, Hindoos, and Parsees.

Delhi, once the capital of the Mogul empire, is situated in 28° 41′ north, in the province to which it gives its name, and at the distance of 976 miles from Calcutta. This once magnificent city is said to have, in former times, covered a space of twenty square miles; in the present day an immense number of its ancient streets, houses, temples, and other edifices, are in ruins, and the modern town, removed at some distance from the old, occupies a space of seven miles in circumference. It is seated on a range of rocky hills, and is surrounded by walls, recently improved and strengthened by the British. The city contains many large and good houses, mostly built of brick. There are a great number of mosques, with high minarets and gilded domes, and above all are seen the palace of the emperors, a very high and extensive cluster of Gothic towers and battlements, and the Jumna Musjeed, the largest and handsomest place of Mahommedan worship in Hindostan. The chief material of these public buildings is red granite, of an agreeable colour, inlaid in some of the ornamental parts with white marble. One of the principal characteristics of Delhi is thus described by Bishop Heber:—"We passed, in our way to the Agra gate, along a very broad but irregular street, with a channel of water, cased with stone, conducted along its middle. This is part of the celebrated aqueduct, constructed, in the first instance, by Ali Merdan Khân, a Persian nobleman in the service of the Emperor Shahjehan, then long neglected during the troubles of India and the decay of the Mogul power, and within these few years repaired by the English government. It is conducted from the Jumna, immediately on leaving its mountains, and while its stream is yet pure and wholesome, for a distance of about 120 miles; and is a noble work, giving fertility to a very large extent of country near its banks, and absolutely the sole source of vegetation to the gardens of Delhi, besides furnishing its inhabitants with almost the only drinkable water within their reach."

The British resident at Delhi exercises a most extensive authority, from his having the exclusive charge of the emperor and his family, his taking cognisance of all political events in the north-west of India, and his superintendence of many ex-kings and chiefs. The office is therefore always filled by one of the ablest and most experienced of the public functionaries of the Company. The population of Delhi is now computed not to exceed 200,000.

Agra, the capital of the province of the same name, is commodiously situated on the south-west side of the river Jumna, in latitude 27° 11′ north. The greater part of this once flourishing city is now in ru the habitable part, the houses are several st height, and the streets remarkably narrow. a large and ancient fort, surrounded with h and towers of red stone, which commands sor views of the city and its environs. The princip according to Heber, are the Motee Musjeed, ful mosque of white marble, carved with exqu plicity and elegance; and the palace built b in a great degree of the same material, and co some noble rooms, now sadly disfigured and d by neglect. Agra has been in some measure r by the British; and when made the seat of a pr will most likely be still further improved.

Benares is an ancient and highly venerate Hindostan, situated in latitude 25° 30′ north elevated piece of ground on the banks of the about half-way betwixt Agra and Calcutta. Th of this holy city are extremely narrow, and th which rise to the height of six storeys, are in so united by galleries. The number of stone a houses from one to six storeys high exceeds and the mud houses are about 16,000, beside houses. The number of inhabitants is estim upwards of 600,000, exclusive of a large body porary residents, who come hither for religi poses from all parts of India. Benares may the university town of the Hindoos, as their religion are here taught by Brahmins and lear in various establishments for the purpose. reckoned to be a place of extraordinary sanct to die at Benares is the greatest happiness of a because he is then sure of immediate admis heaven. The town is distinguished by a ma temple dedicated to Siva. From its great a relics of former greatness, and religious el Benares may be considered the most interestin India.

PORTUGUESE SETTLEMENTS.

The possessions of the Portuguese in India confined to Goa, and a small territory round it; D a sea-port in the province of Guzerat; Diu, island near the southern extremity of the Guze insula; Dhelli, on the island of Timor; also M China; and establishments on Sumbhawa, Flo some others of the Eastern Isles. Goa is the on here worthy of notice. It is situated on the we of India, in the province of Bejapoor, in latitud north, 250 miles south-east of Bombay. Du period of Portuguese dominion in India, this w splendid and populous capital, the head-quarters tyranny, the seat of their inquisition. It is now ness, of which the monasteries form the only portion, and a few miserable monks, half of them are the only inhabitants. "Indeed (says Mr H the city may be traversed from one extremit other without meeting a human being, or any oth of former population than pavements overgro grass, gardens and court-yards choked with und and princely dwellings and venerable abbeys mo rapidly to decay." There are still several chu preservation, also the building once occupied inquisition, which has been shut up for many Panjim, or New Goa, is situated five miles ne entrance to the harbour of Goa, and is now the the Portuguese authorities, and of the business on. The territory in the neighbourhood of Go miles in length by twenty in breadth, forms the sion of the Portuguese; and it was estimated, that within this tract there were two hundred c and chapels, and above two thousand priests.

INDIAN ISLANDS.

The islands usually considered to belong to both from proximity and similarity of social co are Ceylon, Sumatra, Java, and Borneo, with t luccas and a great number of smaller size. lying between 5° 50′ and 9° 50′ north latitude, a

vers their head and back. All processes of manu-
cture and handicraft are on the rudest possible scale,
d carried on without what we term capital. The
ople only scratch the ground instead of ploughing it;
y never apply any manure; their corn is thrashed
setting bullocks to tread upon it; the smith's anvil
the nearest stone, his bellows a rough goat-skin; a
nemaker tans the raw hide one day, and makes shoes
it the next, sitting the whole time at the door of his
stunner; the weaver's apparatus needs but the shadow
a tree for shelter—and it can be removed at an hour's
tice to any other tree which is more convenient.
en their distillery needs only an earthen kettle, some
d water, and a few bamboo reeds for a worm; and
h these they produce liquors as intoxicating and
ricious as any manufactured by the science of
rope. This absence of skill in all the processes of
dustry, renders the labour of the working man of
y slight value; hence, he never receives more than
at is barely necessary for subsistence; and the whole
es of the people are consequently at the lowest ebb
regard to domestic accommodations or mental ac-
irements. Their celebrated countryman, Rammohun
y, who died lately in this country, believed that many
them did not know whether the British or the Ma-
mmedans were masters of India.

Simple as the bulk of the population is, there are not
nting scattered tribes and families dexterous both in
ming and crime. Skill in jugglery, or sleight of
nd, has been carried to a pitch never elsewhere
alled, and the tricks performed are so wonderful as
confound the sagacity of the most acute Europeans.
anquillised as the country is in its civil affairs, there
still a great want of police or effective local jurisdic-
n. In the accounts of all travellers, it is mentioned
t there is no possibility of travelling in almost any
t of the interior in safety without a guard and re-
ue of servants. The roads, if they can be called
h, are hardly discernible tracks, quite unfitted for
eel-carriages, and travellers must therefore ride on
rseback, or on the backs of elephants, or be carried
palanquins—a species of litter supported on men's
ulders. There being also no inns in India, each
veller is obliged to carry tents and provisions for
y use.

n the states of Bhopaul, Oude, Gwalior, and Bundel-
nd, and the Company's possessions in the Doab, as
l as in some other quarters, there exist hordes of
tches, called Thugs, who infest the roads, and carry
a methodic system of murder, for the sake of plunder.
y kill by strangling their unhappy victims. The
gs form a peculiar race, and practice their murders,
s alleged, from a religious principle; at all events,
attach no idea of criminality to the offence. They
e practised the trade for centuries, and are with
culty restrained within bounds by the European
ers.

lavery prevails in Bengal and some other parts of
ia, but neither to a great extent nor on a severe
ciple. The slaves are mostly used in domestic
our, and are generally treated with kindness, both
Hindoos and Mahommedans. Although the British
rnment does not countenance slavery, it would be
nd almost impossible to extirpate it, either by law
dmonition, for it originates in the sale of children
parents during famines, or under circumstances of
liar calamity. Such is sometimes the distress of
parents, that they will dispose of their offspring for
merest trifle, not from want of affection, but most
y with a view to the saving of their lives. Selling
dren into slavery, therefore, prevents infanticide, or,
t is as bad, death by starvation; and so long as no
l exists to relieve the famishing natives during
s of exigency, it does not seem possible to prevent
disposal of children by their parents, especially
e the laws of the Hindoos permit the practice. We
, however, naturally expect that, with the advance
ivilisation and habits of carefulness, slavery will
, as elsewhere, cease. At present, slaves in India

are frequently liberated by their owners from motives of piety.

Independently of the efforts of the Bishop of India and the religious establishment with which he is connected, the Church of Scotland and other bodies of Christians have for some years been putting forth their exertions to attempt the conversion of the native pagan races, and consequently to elevate their condition. But on the whole, very little success has crowned their well-meant labours; the loss of caste, which inevitably follows the abandonment of the Hindoo faith, may be stated as a barrier to conversion which no power of persuasion can remove; in short, it has been proved beyond the possibility of doubt, that to Christianise India, the people must in the first place be instructed in secular knowledge. Aware of this fact, attention is beginning to be directed to the education of the young. Fortunately, the general population throughout Bengal and Bahar, where investigations have been made, are zealously anxious for instruction in useful knowledge, as well as to learn the English language; and there is a prospect of a plan of education being carried into effect, on the basis of native schools already in existence.

From all that we can learn, it would appear that the present rude state of learning among the native population is a degeneracy from something of a lofty character in ancient times. It seems beyond a doubt, that, some thousands of years ago, there was as enlightened a race of inhabitants in Hindostan as there was about the same period in Egypt. Certain remains of art are on a truly gigantic and splendid scale. The most celebrated are the temples of Ellora, a town near Aurungabad, 260 miles from Bombay. They are said to extend over a circuit of three leagues, and consist of stupendous edifices sculptured in the solid rock, like the most exact and beautiful architecture. They are generally about 100 feet high, 145 feet long, and 62 feet wide; and contain thousands of sculptured figures, including sphinxes and other objects similar to those now seen among the ruins of Egypt. The history of these now deserted temples is entirely lost, and imagination wanders in quest of their remote and mysterious origin.

Turning from such matters to others more intimately connected with the modern condition of affairs, it is gratifying to anticipate that British capital and skill will speedily be directed in India to the cultivation of sugar, coffee, tobacco, and particularly cotton, all which products, from the extraordinary cheapness of labour, may be increased to an incalculable extent, and with the most enlivening prospect of profit. Hitherto the system of jurisprudence established by the Company has been a vain mixture of Hindoo, Mahommedan, and English law, and by no means well calculated to preserve public tranquillity. Should the government proceed to modify and extend the system of administering the laws, at the same time relaxing the burden of taxation on land, and endeavouring to conciliate the natives by promoting those worthy of trust, much good might be anticipated. By these and other measures, suited to the genius of the people, a solid basis would be afforded for the investment of capital, and India would gradually improve both in its moral and physical condition.

Until within the last few years, the intercourse with India was carried on by means of vessels belonging to the East India Company or private traders, which made the passage in about five months by the Atlantic and Cape of Good Hope. This most tedious route is still pursued by trading vessels; but the more expeditious route by the Mediterranean, Egypt, and Red Sea, to Bombay, with concurrence of Mehemet Ali, is adopted for mail conveyance and passengers who desire a quick transit. The line pursued is London to Paris; Paris to Lyons and Marseilles; thence by steam-boat, touching at Leghorn and Naples, to Malta; and by another *steamer from Malta to Alexandria*; from Alexandria *by canal to the Nile*, and onwards by boat to Cairo; thence by a land journey to Suez; down the
from Suez to Bombay, touching at Moch
length of time from London to Bombay,
days. The expense of a single traveller is
£153, 19s. 9d.

The circulating medium of India consists of
silver coins, paper-money, and cowries. T
common silver currency is the new coinage of
Potdars, or money-changers, are a common
every town, and sit generally in the open air w
of cowries placed before them. Cowries a
shells, which, not being depreciable by imitati
a good medium for buying and selling among
classes. Their value varies in different plac
following is their value in Calcutta:—4 cowri
da; 20 gundas 1 pon; 32 pons 1 current rupe
shillings sterling (2560 cowries); 10 curren
1 pound sterling. The sicca rupee is 16 per
in value than the current rupee, which is an i
coin. The Bombay rupee is valued at 2s. 3
goda is 8s. The British government now s
handsome and commodious coinage, the more
silver coin being the rupee, which nearly resem
half-crown.

An idea of the trade with India may be obtai
the following statements:—The leading articl
port to India from Britain in 1832, were cott
factures, valued at L.1,531,000; cotton twist
L.309,000; woollen manufactures, L.237,000
wrought and unwrought, L.364,000; iron,
and unwrought, L.144,000; hardware and
L.82,000; wines, L.150,000; beer and ale,
glass, L.101,000; stationery, L.50,000; books,
linen manufactures, L.49,000; jewellery, L.33,
manufactures, L.125,000; apparel, L.32,00
of the other articles is under L.30,000. To
of the articles exported, L.3,750,000. In
cluding those to Ceylon, the total expo
L.3,876,196.

The leading articles of import from India
were—indigo, L.1,242,000; raw silk, L.1,189,00
wool, L.807,000; saltpetre, L.413,000; coffee, L.
sugar, raw, L.209,000; dyed cotton, L.136,00
calicoes and muslins, L.49,000; rice, not
L.128,000; pepper, L.70,000; tortoise-shell, L
Each of the other articles was under L.45,000.

The following words are frequently used in r
to India:—

Adawlet, a court of justice.—*Bega*, a land
amounting in Bengal to about the third of an
Bungalow, a dwelling formed of wood, bambo
and other light materials.—*Chokeydar*, a watch
Choultry, a place for the accommodation of tra
—*Circar*, a large division of country.—*Coolies*,
ers, or porters.—*Coss*, a measure of distance
than a mile, nor more than two miles.—*Crore*,
lions.—*Dacoits*, robbers.—*Dewan*, a head office
ance.—*Dewanny*, the privilege of exacting taxes
petuity.—*Durbar*, a court of audience.—*Gentoo*,
tuguese term, signifying a Gentile.—*Ghaut*, a
hills, or pass among mountains.—*Howdah*, the s
vated on the back of an elephant.—*Lac*, one h
thousand.—*Lascar*, a native sailor.—*Lootie*, a plu
—*Musnud*, a throne.—*Nabob*, or *Nawaub*, a
governor under the Mogul empire.—*Paddy*, ric
husk.—*Pagoda*, a word of Europeans for a
temple.—*Perwana*, a license.—*Pergunnah*, a
number of villages, or tract of country.—*Pe*
leader.—*Pundit*, a learned Brahmin.—*Raja*,
or prince.—*Rajpoots*, literally, the offspring o
now meaning persons of distinction.—*Soubah*, a
of twenty-two circars.—*Subahdar*, the governor
roy of a soubah.—*Tiffin*, a lunch, or mid-day
Vakeel, an agent or ambassador.

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S'S

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A TRADE.

and Fuh-kein on the east; Shen-se, Kan-suh,
e-chuen on the west; Kwang-tung, Kwang-se,
n, and Kwei-chow on the south; Hoo-pih, Hoo-
l Keang-se in the centre. These are again sub-
into portions corresponding to our counties,
and districts. Of these provinces, a survey was
y some Jesuit missionaries, employed by the
government, nearly a century ago, the execu-
which occupied about ten years. A manuscript
y a Chinese, constructed according to this sur-
now preserved among the archives of the Royal
of Britain. Pe-cheli is now the principal pro-
the empire, from its capital Pekin being the
ce of the emperor, and the seat of government.
e signifies the northern court, in contradistinc-
Nankin, or the southern court, where the empe-
nerly resided.

INTERNAL APPEARANCE AND CLIMATE.

its immense extent, it may easily be imagined
ina presents almost every variety of scenery.
tersected by three large rivers, one of which,
g-taze-reang, is described as perhaps the largest
world, and is connected with all the others by
There are also many other streams, and seve-
e lakes in the interior; but nothing is known as
actual extent. "In the long line of internal
ion," says Mr Barrow, "between the capital
and Canton, of 1200 miles, with but one short
tion, the traveller will observe every variety
ce, but disposed in a very remarkable manner,
masses. For many days he will see nothing
uniform extended plain, without the smallest
; again, for as many days, he will be hemmed
een precipitous mountains of the same naked
r, and as unvaried in their appearance as the
and, lastly, ten or twelve days' sail among lakes,
, and morasses, will complete the catalogue of
nous uniformity. There is a constant succession
villages, towns, and cities, with high walls, lofty
nd more lofty pagodas; large navigable rivers,
nicating by artificial canals, both crowded with
or passengers and barks for burden, as different
ch other, in every river and every canal, as
all different from any thing of the kind in the
he world." One general feature, however, per-
e empire—the utter nakedness of the country
cts trees and hedges.

limate of China embraces almost every degree
hermometer. In Canton it ranges from 80 to
es during the summer, but the winter months
ol that many of the inhabitants use fires. There
o more certain criterion of the climate of any
than its vegetable productions, and we may
e mention here generally, that within the bounds
are all the varieties of tree, shrub, flower, and

herb, to be found growing in every other country of the world. The temperature, however, may be generally described as rather warm than cold; but it is much affected by the direction of the winds, which may be literally said to "box the compass," with uniform regularity, during the various seasons of the year. They blow from the north and north-east in October, November, December, January, February, and March, during which months the weather is rather cold; in April and May, from east and south-east, when it is milder, but still cool; in June and July, from the south and south-west, when it is hot; and in August and September, from the west, when the temperature is oppressively sultry and hot. Speaking summarily, the coldest months are November, December, and January; the warmest July, August, and September. Canton, although situated in the same parallel of latitude as Calcutta, is so much cooler during the winter months, that fires are generally used; nay, ice has frequently been found at Canton of the thickness of a dollar, but snow is never or rarely seen. The air is generally dry during the north, moist during the south, and clear during the west winds. The north winds are the most violent, and the south the most feeble. In the months of July, August, and September, the hurricanes, called by the inhabitants *Tay-fun*, usually occur, which, although extremely violent, and coming in sudden gusts, seldom occasion much disaster, owing to the inhabitants being prepared for them. The climate of China is, on the whole, highly salubrious; and many of the complaints common to the whole of Europe are there unknown. The Chinese profess to be free from stone, gout, and gravel complaints; and they are at all events seldom affected with cutaneous diseases. Much, doubtless, is owing to their uncommonly temperate mode of living, of which we will have occasion to say more hereafter. Epidemic fevers, however, are very frequent and fatal, arising from the crowded state of the towns and numerous swamps. The small-pox, too, was formerly very destructive, from the characteristic prejudice of the Chinese against all foreign innovations, however beneficial in the mode of treatment. Their physicians pretended to distinguish *forty* different kinds of small-pox; and when a favourable sort appeared, they endeavoured to propagate it, not by inoculation in the usual mode of incision, but by inserting into the nostril a little cotton wool dipped in the *virus*, or putting on the clothes of the infected! Of late years, however, the European mode of vaccination has generally been adopted, and at the present moment has perhaps entirely superseded the ancient practice. Sore eyes, and even total blindness, are very common, and are undoubtedly to be ascribed to their low, crowded, and smoky habitations, conjoined with their practice of bathing the face in warm water even in the hottest of the summer months.

Several parts of China have suffered much from earthquakes; but there is no appearance of volcanic eruptions throughout the country, though various substances of that description are found in some of the islands along the western and southern coasts.

HISTORY.

From the grossly fabulous and exaggerated nature of the Chinese records, an air of doubt has been thrown over all their early annals. Pretending, as they do, to trace the foundation of their empire not only as far back as the time of the Deluge (of which, it is well worthy of remark, their traditions bear attestation), but even to a period long antecedent to it, it can scarcely be wondered at that a disposition should prevail to reject the whole as purely fictitious. There may be as much error in too great disbelief, however, as in too ready acceptance. The early annals of every nation are mingled up with much that is absurd, and obscured by the suggestions of ignorance and superstition. Nor are those Chinese historians, who trace the origin of their kingdom back through ninety millions of years before the Christian era, a whit more deserving of ridicule than the Romans themselves, who, with all their enlightenment, believed that the god
barbarous mythology took an immediate
share in sublunary matters. The only
ground for wonder, in regard to China, is,
modern writers, some even of our own count
have given in their adhesion to the fabulous
the native historians, and pretended to have
beyond doubt that the Chinese empire wa
more than 2000 years before the Christian
following may be given as an abstract of th
their veracious theories:—They suppose that
Mount Ararat, does not mean to particularis
vidual mountain, but merely the first land whi
itself upon the subsiding of the deluge, which
jecture to be the elevated parts of Asia: That
lowed the track of the large rivers of China
southward, as leading to a fertile and oper
and became the founder of the Chinese m
identifying him with the Fo-hee or Foo-she
history: That, becoming offended with the
his rebel offspring, he separated himself f
shortly before their presumptuous erectio
Tower of Babel; and, steering his course
after 200 years' peregrination, settled hims
of the northern provinces of China (2114 ye
Christ). Here, having settled his colony,
blished the religion, laws, and government,
had received from his antediluvian ancestor
in the 115th year of his reign, and 950th
(1999 years before Christ). He was succeede
nong or Zing-nung, who reigned 140 years,
death (1859 years before Christ) left the
Whang-tee or Hoang-tee, the inventor of Chi
metic and other arts, who reigned 100 year
his death left the crown to Shau-hau (1759
fore Christ).

But it were a mere waste of room to com
enumeration of this genealogical succession
Suffice it to say, that these theoretical histor
it, with painful accuracy, down to the reig
(1452 years before Christ), in the 67th year
monarchy happened the remarkable solstice
in the book of Joshua, and which is actually
the old Chinese annals, although without the
tion of any year. From this time downw
national records have undoubtedly some appe
veracity, being principally contained in the *S*
(or history) written by Confucius, who lived
years before the birth of Christ. Mr Barrow,
researches the present age is chiefly indebte
information most deserving of belief respe
singular nation, suggests a much more mod
rational supposition, of which the following is
stance:—He observes, that although the Chi
be admitted to have been among the first
the world, after the Flood, yet they do not
have made such progress in arts and learnin
Chaldeans or Assyrians; that it is only from
of Confucius that they seem to have advanced
sation; that previous to his time, the cou
divided into a number of petty kingdoms, und
rate chiefs, with a recital of whose reciprocal
struggles for superiority the Chinese annals a
filled; that their historical records are su
abundant and complete during the last 2000 y
the transactions of each reign fully detailed
interruption, down to the present time; a
during this time, the empire of China has
disturbed by foreign wars or intestine commoti
any other portion of the world of which we po
accounts.

Even from this view of the subject very grea
tions must be made. We are, however, com
walk according to our lights, and to offer the
summary of the Chinese dynasties, from th
when their chronicles begin to assume an air
bility:—

From the reign of Yau (mentioned above)
final succession of the present royal family of

· Tai-tsin, in 1644 (A. D.), the Chinese annals enume-
ıte twenty-two imperial dynasties. Three royal fami-
s are mentioned as having possessed the throne from
'67 till 258 before Christ—Kia, Shang, and Chew.
bout the latter year appeared a Chinese hero, Chi-
ang-ti, who overran the empire, extirpating all the
tty chiefs and rulers, and uniting the whole of China.
e also built the great Tartar or Mongolian wall, and
igned until the year 207 before Christ. This prince
s the first of the present family of Tai-tsin, who of
urse are justly proud of their great claims to anti-
uity.

The empire was, however, again dismembered, after
a death, under his son Ul-shi, but was re-united, ten
ars later, by Lieu-pang. He adopted the new name
Hang, and founded the dynasty of Hang. The
inces of this dynasty extended their conquests consi-
rably to the west, and took part in the affairs of
entral Asia. The religion of Tao-tse prevailed during
eir ascendancy; and in the same period Judaism was
troduced into China. In the course of time, the
inces degenerated, and, under Hien-ti, China was
vided into three kingdoms (220), which were again
ited by Wu-ti (280). Whilst the whole aspect of
urope was changed by the general migration of
ations, two empires were formed in China, with the
tinction of the dynasty of Tsin—one in the north
36), and the other in the south (420). After this,
hina was torn by internal commotions, and almost
ery province had a separate ruler, when, in 990, the
ople elected the able Shao-Quang-Yu emperor. He
s the founder of the dynasty Sing, or Song, which
igned till 1279. His immediate successors resembled
m, yet the country suffered considerably by the
vastations of the Tartars. Under Yin-tsong (1012),
e Chinese were forced to pay tribute to the Tartar
eao-tsang. Whey-tsong overthrew the empire of
eao-tsang (1101); but the Tartars possessed them-
lves of the whole of the north of China (Pe-cheli),
125. Kaot-song II. was their tributary, and reigned
er the southern provinces only. Under the emperor
ing-tsong, the Chinese formed an alliance with Genghis-
han, and the Niu-cheng submitted to this great con-
eror (1181). But the Mongols themselves turned
eir arms against China, and Kublai-Khan subjected
em, after the death of the last emperor, Ti-ping
260). Under the Tang dynasty, arts and sciences
ourished in China; several of the emperors them-
lves were learned men. The Chinese authors call the
Mongolian dynasty of emperors *Yuen* (from 1279 till
68), and Kublai-Khan is by them called *Shi-tsu*. This
as the first time that the whole of China was subjected
foreign princes. But the conquerors conformed
emselves entirely to the Chinese customs, and left
e laws, manners, and religion of the country un-
anged. Most of the emperors of this line were able
inces. But after the death of Timur-Khan, or Tsing-
ng (Tamerlane), 1307, and still more after that of
ou-Timur-Khan, or Tai-ting (1318), divisions in the
erial family frequently occasioned internal wars,
ch weakened the strength of the Mongols. The
ese Chu took up arms against the voluptuous
ka-mur-Khan or Shunti, and the Mongolian grandees
me divided among themselves. Toka-mur-Khan
d into Mongolia (1368), where he died (1379). His
n Bisurdar fixed his residence in the ancient Mon-
lian capital Karakorum, and was the founder of the
pire of the Kalkas, or northern Yuen. This state
not remain long united; but, after the death of
oz-Timur (1460), each horde, under its own khan,
came independent; in consequence of which, they
re, with few exceptions, constantly kept in subjec-
n to China after this period. Chu, afterwards called
-tsoo IV., a private individual, but worthy of the
rone, delivered his country from the foreign yoke,
d founded the dynasty of Ming (1368 till 1644),
hich gave the empire sixteen sovereigns, most of
em were men of merit. On the frontiers of the
pire, the remains of the Niudshee Tartars, now
called Mantchoos, still existed. The emperor Shin-tsong II. gave them lands in the province of Leao-tong; and when an attempt was made soon after to expel them, they resisted successfully, under their prince Tai-tsu, and obtained possession of Leao-tong, upon which their chief assumed the title of emperor. He continued the war during the reigns of the Chinese emperors Huan-tsong and Hi-tsong, until his death. His son Ta-tsong succeeded him, and Hoai-tsong, a good but weak prince, was the successor of Hi-tsong on the throne of China. On the death of Ta-tsong, the Tartars did not appoint any one to succeed him, and discontinued the war. But in China, Li-tching excited an insurrection, during which Hong-Puan put an end to his life (1644). Li-tching's opponents called in the Mantchoos to their assistance. They got possession of Pekin, and of the whole empire, over which they still reign. Under Shum-chi, a child of six years old, the conquest of China was completed (1646–47), and the present dynasty of Tsing was finally established. He was succeeded, in 1662, by his son Kang-hi, who subdued the khan of the Mongols, took Formosa, and made several other additions to his empire. During the reign of this prince, the Christian religion was tolerated, but his son Yong-ching prohibited it in 1724. The son of the latter, Kien-Lung, continued the persecution against the Christians (1746–73). He conquered Cashgar, Yarkand, the greatest part of Songaria, the north-eastern part of Thibet and Lassa, the empires of Miao-tse and Siao-Kin-tshuen, and extended his territories to Hindostan and Bucharia. He peopled the Calmuck country, which the expulsion of the Songarians had rendered almost a desert, with the fugitive Torgots and Songarians from Russia. In 1768, he was totally defeated by the Burmese of Ava: nevertheless, the Chinese took possession of a town in Ava in 1770, and returned to their country with the loss of half their army. They were more successful against the Miao-tse (mountaineers). Towards the end of his reign, his minister, favourite, and son-in-law, Ho-Tching-tou, abused his influence over him. Kien-Lung was succeeded, in 1799, by his 15th son, Kia-King. His reign was frequently disturbed by internal commotions. The Catholics, whom he favoured, have lost most of their privileges by their inconsiderate zeal; and at Pekin, the preaching of the Christian religion has been strictly prohibited. Kia-King was succeeded, in 1820, by his second son, Tara-Kwang, whom the Russians call *Daoguan*.

Such is a brief summary of the historical annals of this singular people. Throughout their chronicles occur many periods which are completely blank, and these chasms have been filled up, as usual, with gross fables, which throw an air of doubt over the whole; but it is worthy of remark, that many of the leading facts recorded in their more veritable histories, have been confirmed by contemporary travellers and historians of other nations.

On the whole, however, it appears, that, instead of having existed as a great and united nation from a period of 3000 years before Christ, as the natives pretend, China was not formed into one state until between 200 and 300 years before Christ. Since the establishment of the Mogul dynasty, the empire has not been again divided, but has experienced two great revolutions, at the accession of the Chinese dynasty of Ming, and the re-accession of the Mantchoo Tartar dynasty (Tsing) in 1644; and has scarcely in any reign been free from revolts, wars, and domestic seditions. Instead, therefore, of having a right to be regarded as a privileged country, governed from time immemorial by the same constitution, exempt from foreign conquest and intestine commotions, the only peculiarity it possesses, distinct from the other empires which have been swept from the earth, is—that owing perhaps to its peninsular situation, at the extremity of the habitable world, and its consequent exemptions from the destructive sweep of those conquering nations who supplanted those whom they overthrew, it has preserved its usages and man-

ners in a great measure unaltered, amid the many internal revolutions it has undergone. Still, the fact of this, the greatest mass of population which was ever united under one government, being kept together in one bond of union for a period of time far exceeding that at which the earliest European nation may be said to commence, presents a moral phenomenon of the greatest interest, and seems altogether inexplicable by any of the usual principles which are supposed to bind society together. That it has neither been owing to the nature of the government, nor the virtue of the princes, nor the morality and peaceable disposition of the people, is certain; and we can only conjecture that the system of strict exclusion from all communication with foreign nations, and the national habit of appealing to ancient usage as the universal rule of conduct in all matters of life, have served to preserve their primitive habits and ideas in a great measure unchanged, and left unstimulated those energies invariably called into action by the free intercourse of mankind.

GOVERNMENT.

The government of China is not so much what is usually understood by an "absolute monarchy," as a specimen of what we learn from history to have been the social arrangement of a patriarchal family. The emperor, like the "head of a house" in those times, is perfectly unlimited in his power over all under him. He can dispose of the lives of his subjects at pleasure; can make or abrogate whatever laws he chooses; all offices and emoluments emanate from him alone; in short, he is equally the source of all power, honour, and mercy in the state. He can even appoint his own successor to the throne, either from his own family, or whatever class of his subjects he pleases. One of the leading principles in the Chinese constitution is to place as great a distance as possible between this universal autocrat and his subjects, and to hold him up as a demigod, a sort of *dragoman* betwixt heaven and mortals, alternately communicating the decrees of the one and the petitions of the other. He is altogether exalted above the common gross sphere of humanity. He is styled the "Holy Son of Heaven, sole guardian of the earth, and father and mother of his people." In fact, he is *believed* to be of heavenly origin; and this superstitious notion appeared sufficiently obvious by the obstacles opposed to the succession of the present Mantchoo dynasty, on account of their family not being able to trace its descent through more than eight generations. The new monarch, aware of the danger of this stigma to the stability of his throne, caused his genealogy to be drawn out and published, wherein it was given out that the daughter of heaven, descending on the borders of the lake Poulkouri, at the foot of the White Mountain, and eating some red fruit, conceived and bore a son, partaking of her nature, and endowed with wisdom, strength, and beauty; that the people of that nation chose him for their sovereign, and that from him was descended the present Son of Heaven, who filled the throne of China. This explanation at once satisfied all the scruples of his celestial subjects. Offerings are made to his person and throne, and he is worshipped by prostration, not merely in his presence, but in places where he is *supposed to be present*—as our sailors lift their hats on coming upon the quarterdeck of a man-of-war. When Lord Amherst, in his ill-starred mission to Pekin in 1816, stopped at one of the stages towards that capital, a repast was found prepared by orders of the emperor, and he and his suite were ordered to prostrate themselves nine times before the *table*, as if the descendant of the red fruit of Lake Poulkouri had been personally present. It is, of course, only in keeping with such superstitious notions, that the emperor should be reckoned not only the sovereign of China, but of all *the world besides*, the other royal personages being *merely his vassals*. "Heaven has not two sons; earth *has not two kings*; a family has not two masters; sove*reign power has not* two directors: only one God and *one emperor.*" Such were the precepts of the learned Confucius, 500 years before Christ; and such doctrine of the Chinese at this hour.

This irresponsible autocrat bears two distinct racters: first, that of high priest; and, secon of the sovereign of the empire, or "father and of the people." In the first character, he is so ator with Heaven for the sins of the nation; officiator at all solemn rites and sacrifices for p ing the favour of God. He has thus the exclusi of all the blessings the people enjoy—such as crops, favourable weather, &c.; and although o of public calamity, storms, inundations, and su ters, are also laid to his charge, yet such is fatuation of the people, that they forgive his consideration of the proof thus afforded of the of Heaven to his conduct! But care is always present his character in the most amiable light to his subjects, who only hear of him as pract the Utopian virtues of his station—remitting t punishments, protecting virtue, punishing opp relieving the poor. So much for the head of cutive. What may be called the administrative ment, consists of the emperor's council and t public tribunals. The council is composed ministers of state, taken from the first order darins, and presidents of the supreme tribunal never assembled except upon occasions of extre lic importance; every thing being in general by an inner council, where the emperor sits in p There are six superior tribunals at Pekin. T named Lü-poo, watches over the training of rins, or persons to fill official situations, as well their conduct after being appointed to office; their proceedings and character to the emper in short, has them entirely under its surv The second tribunal, called Ho-poo, may be de the court of finance, where all the revenues empire, the royal treasures and domains, an branch of public expenditure, are managed. Th tribunal, Lee-poo, or the court of ceremonies, tends the observance of ancient customs and r ceremonies; examines the public schools, and the progress of the sciences; receives foreign emb (a great tax on their time!) and regulates all of etiquette about the court. The fourth tribuna poo, is something akin to our war-office, in hav management of all the military concerns of the Fifth, Hong-poo is the police department, di every thing relating to the detection and punish crimes. The sixth tribunal, Kong-poo, is the t of public works, having charge of the palaces, buildings, canals, mines, manufactories, &c. A tribunals have under them a great number of s nate tribunals scattered throughout the empire, vient to their various objects of institution. Eac six supreme tribunals has two presidents, one o must be a Tartar by birth, and the other a C They have, also, twenty-four assessors, who a Chinese, half Tartars.

There is, also, another tribunal, the nature of sufficiently demonstrates of itself the grand p upon which the Chinese government is based—t of making every thing depend upon the emper is a board of *censors*, who send an inspector to over the proceedings of each of the tribunals—b supreme and subordinate. These functionaries part in the proceedings of the tribunals, but me and attend to all the proceedings, which they r their principals, and these again to the emperor. agents are, in short, his spies; and by them he in governs his empire. The mandarins are change one situation to another every three years, to p their acquiring too much influence with the pe which times they are obliged to appear regul court—to resign the seals of office, we suppose, the ground, upon entering on a new one.

The beautifully complicated machinery of g ment just described, might be supposed, if ye regulated, well adapted for accomplishing its

, and destroy all genuine sentiment amongst them. the beggar upwards to the sovereign, each indi- is the slave of him immediately above himself; what is worse, all are aware of the hypocrisy of other, and there are no other bonds to hold society er save the chains of tyranny.

LAWS.

Laws of this singular nation may be described as of the bamboo, the cord, and the scimitar. "This nation," says Mr Barrow, "may be aptly enough ared to a great school, of which the magistrates he masters and the people the scholars. The on is the ferula, and care is taken that the child not be spoiled for sparing the rod. The bamboo, ver, is not used merely as an instrument for flog- he people. In the fundamental laws of the empire, ns the scale by which all punishments are sup- to be proportioned to the crimes committed, and are carefully dealt out by weight and measure. hment, as an example to deter others from the ission of crimes, would seem, indeed, to be less bject of Chinese legislation, than that of satisfying laims of rigid justice—to wipe off a certain degree ime by the infliction of a proportionate degree of ing."

e laws are embraced in a code called the Lan-lee, has generally undergone some modifications each new dynasty, but has continued fundamen- the same from time immemorial. It is one of the s of the mandarins to instruct the people in the sions of these laws, and they are likewise promul- in all the schools and public seminaries. The of the present family, called the Tai-tsin Lan-lee, sts of six great heads, to correspond to the func- of the six supreme tribunals, and embraces an ne of the whole system of government. Our rs would not, we believe, thank us for an exposi- f this institute of Asiatic jurisprudence; but the division, relative to crimes and punishments, ins matter sufficiently curious and interesting. son—which, besides the crime of rebellion, com- nds nine other species of offence, amongst which arricide, impiety, and desertion to a foreign power nvariably punished with death, in the former case the most lingering tortures. But it is not merely the criminal himself that the penalty for treason

All the male relations of such persons are indis- nately beheaded, the females sold into slavery, and eir connexions relentlessly put to death. And it is lid the vengeance of the law always terminate here; too frequently happens that whole villages, nay, times entire districts, are indiscriminately slaugh- for the crime of one individual! To intrude into the f the imperial retinue while the emperor is travel- subjects the offender to death. One of the most ordinary decrees is, that if the emperor's physician scovered compounding any medicine in a manner anctioned by established usage, he is punished with blows. If any dirt is found amongst his majesty's the cook receives eighty blows; and if he mixes unusual ingredient or sauce, which his majesty's e does not agree with, he receives 100 blows, and mpelled to swallow the article himself! All cases eliberate murder are punishable by death; and , with the most lingering tortures, is denounced st parricides. The penalty of death is also awarded st a slave who shall strike his master; a son who strike his father or mother; a grandson who shall e his grandfather or grandmother; a wife who shall e her husband's father, mother, grandfather, or dmother. But if a father kill a son, grandson, or , even designedly, the punishment is no more than blows of the bamboo, and a year's imprisonment. this lenient punishment is generally remitted for e, as the law presumes the cause of the act to be isobedience of the child, which is held as a crime e deepest dye, as affecting the principle of the whol em of government. The jealousy of the Chine

law on this important point is further illustrated by the following decree—"That a child or grandchild, who is guilty of addressing abusive language to his or her father or mother, paternal grandfather or grandmother; a *wife* who is guilty of the same to her husband's father or mother, paternal grandfather or grandmother—shall in every case *suffer death by being strangled!*"

There are five degrees of punishment for offenders:—The first is inflicted by the lesser bamboo,* and is said merely to be in the way of reproof and admonition. The correction extends from four to twenty blows. The second degree extends from twenty to forty of the larger bamboo. The third is temporary banishment to the distance of 150 miles, extending from one to three years. The fourth degree is perpetual banishment, with one hundred blows of the bamboo. The fifth and ultimate punishment is death, either by strangulation or decollation. There are also various kinds of torture to extort confession and evidence. The punishment by the bamboo, however, is, in the case of offences committed by the officers of government, commuted to fine or degradation, and, under peculiar circumstances, the benefit of commutation by fine is extended also to private individuals. In fact, there is a regular scale of charges for those not legally excluded from the degradation of flogging, of which all who are rich enough may avail themselves. The motive of this regulation is evidently to fill the coffers of the royal treasury.

REVENUES.

No correct estimate, for want of the necessary data, has ever been ascertained of the actual amount of the revenues of this immense empire, and the most different statements have been put forth on the subject by various writers and travellers. The Chinese themselves, of course, attempt to impress foreigners with a most exaggerated idea of its magnitude. A Chinese minister represented it to Lord Macartney as amounting to a sum exceeding sixty millions sterling, of which, after defraying all the civil and military expenses, about twelve millions were supposed to remain for the emperor's private support. Mr Barrow reckons "that fifty millions, in an economical government like this, where the officers and magistrates are so shamefully paid that they could not live without robbing the people, may be considered as an ample revenue for all the necessities of the state." Some late writers have reduced the estimate as low as twelve millions; but such a calculation is evidently absurd. Perhaps the nearest to the truth is that of the intelligent M. de Guignes, who accompanied the Dutch embassy in 1794. He drew up a minute summary of each individual tax and branch of expenditure, and their amount, and the result was as follows:—

Revenues, - - -	£31,555,554
Expenditure, - - -	22,222,221
Surplus,	£9,333,333

—the surplus, after the emperor takes what he immediately requires, being deposited in the public treasury. If this calculation be correct, it is evident that enormous sums must thus sometimes be accumulated. Mr Barrow, it is true, says, "that the immense treasures said to have been amassed by the reigning dynasty, exist only in the imagination of the Chinese." But he seems to have forgotten what he himself states in another place, where, speaking of the various means adopted to preserve the emperor's popularity, he tells us that the sovereign sometimes remits a whole year's taxes to his people—a proceeding which could not easily be put in practice with an empty exchequer. The emperor has also private domains, the revenue of which was estimated by M. de Guignes at upwards of four millions.

The revenue is raised from a land-tax, amounting to about a tenth of its produce, one-half of which is paid in money, and the other half in kind. There is, besides this, a tax on salt, coals, and manufactures; and a capitation-tax upon merchants, artisans, &c., who are held lowest in the scale of society. It is a curious fact, that the regulations for collecting the duties on manufactures, and preventing smuggling, resemble exactly the British system of permits, excise-officers, licenses, &c. In addition to these revenues is the large amount raised by the duties on foreign shipping and merchandise, of which we will have further to speak when we come to treat of the trade of China.

ROYAL FAMILY—COURT DRESS AND CEREMONIALS.

As may be imagined, the emperor is domiciliated in a style suited to his immense wealth, high rank, and pretensions to unlimited sway. His train of courtiers, officers of state, and other attendants, when he appears in public, which is exceedingly seldom, is inconceivably numerous; and being all apparelled in gorgeous silks and satins of the brightest dyes, garnished with gold and silver, their appearance is inexpressibly magnificent. But it is only while going through this public exhibition that all this show of wealth and magnificence has any reality. When released from duty, they return to their mean and solitary cells in the outskirts of the palace, where they devour their rice out of wooden bowls with their chop-sticks, and then lie down on their mats on the uncovered floor, to slumber away the hours till their services are again required; for to enter into conversation with his fellow-slaves, would, as being so strange a departure from the national taciturnity, subject the parties to the suspicion of conspiracy.

The emperor has three classes of wives. The first consists of one who has the rank of empress; the second, of two queens and their attendants; and the third, of six queens and their attendants. The emperor's wives and women are doomed to reside for ever within the walls of the palace, and are, after his death, imprisoned for life in a prison called the "Palace of Chastity."

The princes of the blood who are descended in a direct line from the reigning family, have their names and dates of birth registered in a yellow book, and have the privilege of wearing a yellow girdle; but those who are only of collateral descent, have their names enrolled in a red book, and wear a red girdle. So inimical is the spirit of the government, however, to a multitudinous nobility, that even the princes of the blood beyond the third generation, unless they have talents and learning to recommend them to some honourable employment to which rank is attached, gradually merge into the common mass. The princes have the privilege of being tried only by their peers, and may procure exemption from any corporal punishment by a fine. The persons of those who wear the yellow girdle are held so sacred, that any one insulting them incurs death. Those who hold no office, only receive a salary equal to the pay of a common soldier in the Tartar bands, and receive 100 taels (about 30 guineas sterling) at their marriage. The emperor and his children wear robes of satin of a bright yellow colour, while all the other branches of the royal family, like the mandarins, wear robes of a violet colour. The emperor, his sons, and those of the first rank, are also distinguished by figures of dragons with five claws embroidered on their vestments; princes of the second rank have dragons with four claws: those of the third rank, as well as the mandarins, have, instead of dragons, serpents with four claws. The *button of ceremony* on the headdress of the emperor consists of three dragons of gold, placed one above the other, encircled and studded with pearls. His upper robe has four circles embroidered with dragons. His necklace, which in his case alone is composed of pearls, consists of 112 pearls, and other ornaments of rubies, sapphires, and amber. His girdle is of a bright yel-

* This instrument, which makes so conspicuous a figure in the Chinese code, is of two sizes: the larger is five feet eight inches *long, two and three-fourth* inches broad, and two inches thick, *weighing two and two-third* pounds; the smaller is the same *length, two inches broad, one* and one-fifth thick, and weighs one *and five-sixths of a* pound. The infliction is applied in open court, *immediately upon sentence* being passed.

The population of China, under the emperor himself
l his family, may be divided into eight distinct classes.
d one of the most striking circumstances in the
ial system of this great despotism is, the want of that
ich has almost universally been reckoned indispens-
le to the stability of a monarchy—*a nobility*. With
exception of the princes of the blood, whose per-
s are in some degree held sacred, there is no rank
what is derived from the holding of some office in
state. But although those thus favoured are, by
rtesy, esteemed noble, and even some families are,
the emperor's favour (such as the descendants of
nfucius), allowed to retain a title of honour, they
ive no power, privilege, or emolument therefrom.
e sons of the highest mandarins derive no dignity or
vantage from the rank of their fathers. As the pos-
sions of a parent, too, are all equally divided amongst
sons, the riches of the greatest families diminish in
portion to the number of heirs; and if these are no
y distinguished by talent, they soon sink back into
common mass of the people.

The great body of the people may be divided into the
lowing classes:—The MANDARINS, the MILITARY, the
ERATI, the BONZES (or priests), the HUSBANDMEN, who
the most favoured class in the state, the ARTISANS
d the MERCHANTS, who are the *least* respected, *espe-
lly those who traffic with foreign nations!* It is one
the most curious features of this singular government,
t, being so essentially despotic in itself, both in prin-
le and practice, it possesses one feature generally
kened the main principle of a democracy—namely,
t *the highest honours and offices in the state are alike
n to all classes of the people*. The meanest origin
no bar, and the proudest rank is no recommendation
the individual. This system no doubt soothes the
blic mind, and induces the people to bear with
ater patience that insolence of office and stretch of
wer which they themselves have the prospect of ex-
rising in turn. The result, however, is exactly in the
erse ratio to the plausibility of the system. "Where
offices of state," says Mr Barrow, "are open to the
ry lowest of the people, when possessed of the re-
isite qualifications, the candidates for employment
come so numerous, that every trifling fault is laid
ld of to create a vacancy; and these frequent re-
vals and degradations fall in precisely with the system
government, which is to break down all connexion
tween the officers and the people, and to turn the
spect and veneration of the latter exclusively to the
vereign." It is found, that the more mean the ori-
nal condition of a mandarin has been, the more op-
essive and extortionate is his conduct to those under
m, not only with the view of making his origin be for-
tten in his present elevation, but, knowing the inse-
rity of his situation, of making the most of it while it
in his power. The people, however, submit patiently
his exactions, assured that his dismissal (of which
ey are certain) will open the way for one of them-
lves to enjoy the same opportunities of robbery and
pression.

In accordance with the national system, however,
e office of mandarin, to which all ranks eagerly as-
re, is almost wholly engrossed by individuals selected
om the three humblest classes—the husbandmen, the
tisans, and the merchants. Those who have acquired
ealth, by whatever means, generally enter into some
these occupations to render them more eligible for
e office, in order that, by attaining it, they may enjoy
eir possessions in more security. Others purchase the
fice with their whole fortune, secure of finding the
eans of recruiting their finances during their three
ars' administration.

The mandarins consist of two classes, the civil and the
ilitary. The former, however, are the chief officers
ho govern the empire, although they are placed under
uch restrictions as to prevent their ever becoming da
gerous to the emperor. They cannot marry in the

vince or city they govern, nor hold office in a province within fifty leagues of that where they were born, until they are sixty years old; with many other despotic regulations of the same nature. A mandarin has unlimited power in his district, but his conduct is watched by those above him, as it is the policy of the Chinese government to make every department responsible for the one immediately inferior to it. Notwithstanding this surveillance, however, and although their salary is barely sufficient for simple maintenance, it is regarded as a phenomenon by the Chinese to see a mandarin leave office without amassing great riches. Their means of accomplishing this we have already explained under the head of Government. Notwithstanding their infamous exactions, the people observe towards them the greatest reverence. They are saluted with the title of "Great Lord," and every one bends the knee while addressing them. The two chief classes of mandarins are divided into nine different orders, who are all minutely distinguished by particular parts of their dress. The most marked, however, is the button in the bonnet, which, among those of the first order, consists of a red ruby; others of a meaner order have a rock crystal; and the most inferior, one of gold. The number of civil and military mandarins is calculated at between 20,000 and 30,000.

The *literati* form the most distinguished part of the Chinese nation, as it is from amongst these that the individuals necessary for discharging all the higher duties in the state are recruited. To ensure the adequate accomplishment of these learned statesmen, there is, as before stated (under the head of Government), a board of censors, named *Lü-poo*, to direct their studies, and examine into the progress of their erudition; and government has fixed for every city of the first, second, and third class, the number of literati allowed to qualify themselves annually in each, by taking out a diploma, corresponding to the degree of Bachelor of Arts in Britain. There are, then, in China, upwards of 24,700 individuals annually added to the qualified literati; and it is therefore conjectured, that there are never less than 495,000 of this body. These are all exempt from taxes of every description; and as soon as they have taken out their degrees, their names are enrolled in the lists of the *Lü-poo*, who choose from amongst them the higher orders of mandarins.

It is, however, in productive labour that perhaps two-thirds of the Chinese are employed; the remaining third, amounting, after deducting the civil and military officers, students, literati, &c., to about ten millions, being engaged in trading and manufactures. It is the great maxim of the Chinese government, that agriculture is the true source of national prosperity and wealth; and they have in every age honoured and protected the cultivators of the soil. This class, indeed, may be considered much the happiest and most independent of the nation; for although they pay to the amount of a tenth annually to the emperor, they have neither priesthood nor poor to support—unless the poor of their own families, whom all classes are bound to provide for. The monarch is the universal proprietor of the soil, and the tithe exacted from it is the whole rent paid by the farmer. But though the cultivator is thus in a manner a tenant at will, he is never disturbed in his possession so long as he continues to pay his land-tax, and has the power of letting out any part, or the whole, if he pleases, to another. As there are no public funds in which to vest capital, and commercial speculations are reckoned degrading, all classes are eager to lay out their capital in land. It is for this reason that even the princes and nobility vie with each other in countenancing agriculture. Yet, notwithstanding all this encouragement, the amount of land cultivated is trifling in comparison to the extent of the empire. By a report made to Kien-long in 1745, it appeared that there were only about 6,000,000 *of acres under cultivation*, out of the 640,000,000 *calculated to be capable of* tillage. From the want of *enterprise, but still more* from the want of skill and *suitable implements*, immense tracts of land are allowed to lie waste; and it is estimated that a fourth of the whole country consists of lakes and swamps, most of which are capable of being drained. It will easily be seen how inadequate the produce of the soil is to ensure a regular supply of food to the inhabitants, in case of scarcity, occasioned by long droughts, which frequently occur; and when it is considered that there is no foreign supply of grain to make up for deficiencies, little wonder need be expressed at the terrific famines which often afflict the nation. To provide against these scarcities, a year's produce of the land is always kept stored up in public granaries; but this provision is never found sufficient to prevent the frequent recurrence of the most dreadful scenes of starvation.

We are somewhat puzzled what to say regarding the amount of the population of China; for although all accounts agree that it is something enormous, there is a difference of millions between the statements proceeding from what may be termed the most authentic sources known. The mandarins attendant on Lord Macartney, in the year 1793, gave out the population at 333 millions; and by a census taken in 1813, by order of the Chinese government, this enormous mass is swelled up to 367,821,647, which gives about 263 to the square mile. According to a statement in a Chinese official document which is quoted with approbation by Dr Morrison, the population at present is 352,866,81[illegible]. Of the truth of this statement nothing can be said, as considering the small extent of cultivated land in the empire, it appears to be greatly exaggerated. The supposition is, that it not only includes China Proper but all the surrounding states, which are either dependant upon, or pay tribute to the empire. According to Thom, the population is 181,780,163, which he divides into the following religious sects:—

Followers of Confucius, Laou-tsze, and Taou,	159,220,163
Worshippers of Lama,	18,000,000
Mahommedans,	1,600,000
Roman Catholics,	88,000
Jews,	50,000
Boodhists and others,	2,830,000
	181,788,163

This table is perhaps as near an approximation to the truth as can be made, although the calculation is thought by some to be too high for the extent of cultivated ground. According to a parliamentary paper published in 1830, the population of China Proper, exclusive of Tartary and the other dependencies, is 141,470,[illegible] souls. In the German Statistical Almanac, published at Weimar in 1838, the population of China Proper is estimated at 148,000,000. From the same authority we learn that the army in 1835 was 1,250,000 strong, comprehending 830,000 infantry, and 420,000 cavalry; and the naval force is calculated at 32,440 men.

PRODUCTIONS—AGRICULTURE—TEA CROP.

The staple productions of China are rice, tea, silk, cotton, sugar, salt, porcelain, tin, lead, musk, rhubarb, quicksilver, saltpetre, wines, fruits, and various manufactures.

Rice is the great staple article of food; and so much is its importance regarded, that a high festival is held at the commencement of each seedtime. The emperor performs in person, and prepares himself for the solemn occasion by three days' fast and prayer. He then goes forth in great pomp, takes the plough in his own hands, opens a furrow, and throws in the first seed of the season. The same is done in every part of the empire on the same day, by the viceroys and governors. The grain reaped from this seed is preserved in granaries and reserved for sacrifices. The cultivation of this grain, of which there are two crops annually, requires little or no labour; water supplies every purpose, and for the most part this element is abundant in every part of the empire. The growers display great ingenuity in their various contrivances for raising the water from the rivers, by means of wheels, [illegible]

e black tea is grown in the maritime province of
en, with the exception of about one-third of the
, which is produced in the north-east corner of
n province, in a district called Wo-ping. Green
all grown in the maritime provinces of Kiuguan,
g-si, and Che-Kiang, but chiefly in the two former.
of the buds of the plant in Fo-kien are picked in
rly part of the spring, before they have burst,
small portion of these is mixed with the best
ds of congou, to give them a flavour. Pekoe is
brought to Canton unmixed with other leaves.
the beginning of April, the leaves are stripped off
lant; a new crop is then thrown out, and picked
six weeks afterwards, and a third crop about the
f May: the two first pickings are the best, and
y equal in quality. The third crop of leaves
s tea of little strength and inferior flavour: hence
est crops are composed wholly of the choice leaves
e two first gatherings, with a small sprinkling of
uds or pekoe. The inferior crops contain a larger
of the third pickings, and none of the pekoe.
black tea in Fo-kien is cultivated largely by cot-
s in small plots of ground or gardens. The leaves
icked by the family, and immediately sold to per-
whose business it is to collect quantities of them,
manufacture them in parts, that is, expose them to
ried by the wind under the shade, and afterwards
further dried in a heated warehouse. The tea-
hants and the agents of the Hong merchants exam
e tea districts, and purchase quantities of the dried
s of the first, second, and third gatherings, discri-
ting the leaves of young and old plants, and those
n in well-known favourable spots. They then
plete the drying or roasting process, and employ
en and children to select the hard, the best leaves,
more or less discrimination, according to the
t of making very fine, middling, or common tea.
green tea is less highly dried than the black; and
Barrow supposes that it is from the former thus
ning much of its natural juices, that its nervous
erties (generally ascribed to its being dried in
er vessels) are to be imputed. The green tea is
lly pressed into chests while hot, to give it a finer
ur. The tea is made into parcels of from 100 to
hests each, with a distinctive name to each parcel,
conformity of quality, where the tea-merchant acts
stly; hence those parcels of tea, which, under
in Chinese names, have proved, in a series of years,
xcellent quality and similar characters, and which
greatly sought after at the London sales, are not
roduce of any particular farm, but owe their cha-
r to the skill and good faith with which the tea-
hant or the Hong merchant's agent have executed
commissions in selecting only superior parcels of
a in the markets of Woo-y-shan. Like the black
the different classes are formed by selecting the
r from the inferior leaves after they have been
; the light leaves separated by a winnowing ma-
e from the heavier, the latter of which constitute
gunpowder tea; the lighter are of inferior quality,
only used by the common people. The blooming
arance of hyson, gunpowder, &c., is said to arise
the effects of carefully roasting the leaves in iron
s placed over a fire, and by rubbing them against
sides of the vessel; in this process, with the green
, much skill is requisite, and there is a class of per-
hired by some of the tea-merchants to superintend
r respective manufactories. The bohea tea is com-
d partly of the lower grades of the Woo-y-shan tea,
h has been left unsold after the departure of the
ships of the season, and partly of the tea grown in
district of Canton called Wo-ping.
he tea-chests undergo severe scrutiny in Canton,
iously to being purchased; and if, when finally
mined at the period of their shipment, they are
d superior to the quality which has been attached
hem, their price is raised; if inferior, they are
cted, or their price lowered. The scientific mode
roving the finer teas is to put a small quantity into

a cup; pour on it pure spring water at full boiling heat; place the saucer above the cup, filling it also with boiling water to increase the heat: after a sufficient time has elapsed for the leaves to unfold themselves, to examine the appearance, flavour, but particularly the *colour* of the infusion. The latter quality is of course only known to the initiated.

Tea is the universal beverage of China. It is drunk at all meals, and is almost the only liquor used at feasts, and while visiting each other. But it is a general rule amongst them never to drink tea immediately after a long fast, it being apt to affect the nerves, and create giddiness. The tea-shrub is cultivated only in China and Japan, and is supposed to be indigenous to one or both of these countries. All attempts to introduce it into Europe have hitherto failed.

The quantity of tea annually plucked in China, it is impossible to calculate, unless we also knew the quantity consumed by the natives. About 54,000,000 of lbs. are annually exported from Canton to all parts of the globe; and it is a remarkable fact, that of this quantity Great Britain and Ireland alone consume nearly 32,000,000 lbs.—being about 10,000,000 lbs. more than all the nations of the civilised world put together!

As substitutes for tea, the Chinese use a species of moss common to the mountains of Shan-tung; an infusion of different sorts of ferns, and the leaves of the common cammelia.

A plant called the oil-bearing tea, is much cultivated for its seeds, from which an oil is expressed, in very general use in the domestic economy of China. The seeds are ground to a coarse powder, boiled in bags, and then pressed, when the oil is yielded. There is also cultivated a tree of considerable height, called the tallow-tree, from the seeds of which a substance is prepared, having all the properties of animal tallow. A species of white cabbage is in very general use, and is considered to be to the Chinese what the potato is to the Irish. Fruits of every kind abound, but they are not considered good, except the orange, and a species called lee-tchee.

MANUFACTURES.

From the inveterate adherence of the Chinese to ancient customs and practices of every description, they have been left completely behind by almost every civilised nation in all useful mechanical arts, even those which originated with themselves. Every thing seems to have stood still in China but time. Nothing can be more illustrative of this fact than the case of the silk-manufacture, of which they were undoubtedly the inventors, and the knowledge of which, as their annals boast, they possessed 3000 years before Christ. The native reeler and weaver still continue to labour on by the same tardy process, and with the very same materials, as were used by their ancestors; while in England, where the manufacture was totally unknown until the fourteenth century of the Christian era, Sir Thomas Lombe, so far back as 1718, erected at Derby a machine driven by a water-wheel, by every revolution of which wheel 73,726 yards of organised silk-thread were thrown off, and amounting per day to 318,504,960 yards! At this day, the silks of China will not bear comparison with those of Lyons, Spitalfields, and Edinburgh; the first for light fabrics, the second for the more substantial, and the last for shawls. Again, in the article of porcelain (from the Portuguese *porcella*, a cup, they being the first who introduced it into Europe), which, until a very late period, continued to be the admiration of the world, we have been enabled, through the researches of Reaumur and other chemists, to compound earths matching that with which nature voluntarily furnishes the Chinese, and not only equal them in the fineness and durability of the ware, but infinitely excel them in elegance of manufacture. For nearly a century, the clumsy fabrics of the Chinese, with their daubs of blue paint, which formerly were the principal ornaments of the mansions of the wealthy, have been driven *out of the market by* the beautiful wares of Dresden, *Staffordshire, and Sèvres.*

The same remarks may be applied to all the other manufactures of China, the principal of which, besides the two above mentioned, are those of cloth, nankeen (or cotton), linen, paper, and ink. In whatever department of art the Chinese continue to maintain a superiority over, or equality with, the rest of the world, the cause is to be found in the bounty of nature, not their own ingenuity. Thus, the beautiful yellow which distinguishes the nankeen cloth, is a natural quality of the cotton grown in the province of Kiang-nan (of which Nankin is the capital), and is to be found in no other district of China. The Chinese still pertinaciously adhere to their ancient practice of fabricating their paper from the bark of the bamboo and koo-tchoo (by the latter of which names they term it), notwithstanding their being perfectly well aware of the superiority of that made from rags, and the infinitely greater cheapness and simplicity of the manufacture.

The Chinese ink is obtained from the soot produced by the smoke of pines and the oil in lamps, mixed with the isinglass of asses' skin and musk, to correct the odour of the oil. It is principally made in the province of Kiang-nan.

ARTS AND SCIENCES.

What we have said respecting the stationary condition of the manufactures, applies equally to the arts and sciences of China. The process of printing continues the same as when originally invented by themselves about 1700 years since. The characters are first written on paper, which is glued upon boards of hard wood, and the engraver carves the characters upon the wood, hollowing out the intermediate parts. When an impression is to be taken off, the printer lays on the ink with a brush, applies the sheet of paper, which he presses down with a softer brush than the other, and with a greater or less degree of pressure, according to the quantity of ink laid on. Such is the primitive mode of printing still persevered in throughout the interior of China, although moveable types are of course necessary in printing the Royal Gazette of Pekin, which is issued daily, and other documents.

One of the most singular features of Chinese genius is developed in their attempts at painting. They display extraordinary powers of minute imitation, and will copy with the utmost exactness the number of petals, thorns, spots, &c., of a flower, and the scales of a fish; but they are utterly unable to mix and soften their tints, and copy every defect as well as excellence in the object of their imitation. They have not the slightest idea of perspective, considering the diminished and faded appearance of distant objects as the consequence of a defect of vision; and they therefore insist upon placing every object in the foreground. When one of their ministers of state beheld a portrait of his Britannic majesty, he remarked that it was a pity it should have been spoiled by the dirt on the face—meaning the shading of the nose. When they draw a picture of the emperor, they consider it would be almost impious to represent him of the ordinary human proportions, and therefore make him twice as large as any of his attendants—the head particularly. But this self-conceited people consider themselves in this, as in every other art, pre-eminent over all other nations, and reject with disdain the remonstrances of European artists.

In sculpture, as in painting, the Chinese have no conception of order, attitude, or proportion; and there can be nothing more monstrously grotesque than the figures which *adorn* their temples, bridges, and tombs. It is affirmed, indeed, by recent travellers, that there is not a statue or column in the whole empire worth notice.

The Chinese music remains in that state of primitive simplicity in which it has been observed to exist in all barbarous nations. Dr Burney says, that "all the melodies of this nation have a strong analogy to the old Scottish tunes;" that "both resemble the songs of ancient Greece;" and that "the music of all three ought to be considered as *natural* music." Their gamut, like

ce of astronomy, for their proficiency in which
have hitherto enjoyed a great reputation. Their
pretensions in this department turn out to be
ded fully as much on superstition as scientific ob-
ation. So sensible are the Chinese monarchs of
fact, that for many generations the construction of
r vaunted Imperial Almanac has been intrusted to
ignors, the native astronomers only contributing
important department of fixing the lucky and un-
y days, days of festivals, &c. "The Chinese system,
stem it can be called," says Mr Barrow, "resembles
inely that which remains of the Hindoos, that both
t have been derived from the same source. The
le, or cycle of sixty years, by which their chrono-
is regulated—the period of 10,800 years observed
e Tae-tse, which is the sum of the first three Hindoo
, with their intermediate periods—the division of
odiac into twelve signs, and also into twenty-eight
tellations, or habitations of the moon, correspond-
with the twenty-eight Hindoo nacshatras—are so
y signs of a common origin; and both may perhaps
derived the remains of this science from some
d nation, more ancient than either; as the little
h both nations do possess appears to be the remains
er than the elements of the science." There is,
rtheless, a board of astronomers and mathemati-
s maintained at Pekin, which is, in fact, one of the
ial departments of government; and a committee
nually appointed with great ceremony to superin-
the compilation of the national calendar. It is
ous to see this ostentatious show of a love of learn-
kept up by a people who are still so ignorant as to
on that the firmament is a body encircling the
h, the latter of which is a solid fixed square, and
d which the sun revolves, as well as the moon;
all the stars are stuck into the sky at an equal dis-
e from the earth;—who gravely decide, by the state
he planetary system, the days proper for taking
icine, marrying a wife, setting out on a journey,
g the foundation of a house, &c. Their geogra-
al is on a par with their astronomical knowledge, as
be imagined from their supposing China to be the
dle region of the globe, and terming one mountain,
h is reckoned the centre of the empire, the "Navel
e Earth." The more educated are at this day well
ainted with the fallacy of such doctrines, but they
still propagated amongst the mass of the people, as
ould be equally impolitic and dangerous to expose
delusions which have obtained credence amongst
n from time immemorial, and the gross ignorance
heir idolised sages. The fact is, that the pretended
wledge of the literati, and ostentatious patronage of
ning by the government, is a mere state-trick, for
purpose of exciting the veneration of the ignorant
titude.

f natural philosophy, or chemistry, the Chinese
w literally nothing, except from a practical acquaint-
e with the results of certain causes. Of medicine,
science, their whole stock of knowledge is a com-
ation of quackery and empiricism; and it is a re-
kable fact, that the healing art, which, in almost
ry other quarter of the known world, whether savage
ivilised, justly obtains for its professors the highest
ect, honours, and emolument, is in China so little
mated, that all classes are allowed to practise it *ad*
um. There are no schools for medical instruction;
theory of the human frame is wholly unknown to
m; and they even reject the doctrine of the circu-
on of the blood. Their remedies are chiefly of a
etable nature, and consist almost solely of *ginseng*
native root, which they pretend to prepare in
enty-seven different ways), rhubarb, China-root, and
. Their surgical knowledge is equally defective, as
be judged by the fact, that the practice of it is
ited almost entirely to the honourable fraternity of
bers. Their operations consist in setting a fracture,
cing a dislocation, letting blood, by scarifying, cup-
g, or acupunctuation (for they entertain a sentimental
ror of the lancet and scalpel—knife), cutting corns,

cleaning the ears, tweaking the nose, beating the back, pulling the joints till they crack; in short, we may sum up our account of Chinese knowledge of the healing art with the remark of the late Dr Gregory of Edinburgh, that "the emperor of China could not command in all his dominions such medical aid as a smart boy of sixteen, who had been apprentice for one year to a well-employed Edinburgh surgeon, would be able to afford."

LANGUAGE AND LITERATURE.

The language of the Chinese is another branch of their history, respecting which the rest of the world has been impressed with the most preposterous and exaggerated ideas. It has been represented as consisting of millions of characters—as being perfectly unattainable by foreigners, and so forth; and thus has this truly barbarous nation acquired a reputation for philological science as spurious as that which they have enjoyed for other branches of antique erudition. "It is true," as Mr Barrow says, "that their language, more than any thing else, stamps them as an original people. It has no resemblance whatever to any other language, living or dead, ancient or modern. It has neither borrowed nor lent any thing to any other nation or people, excepting to those who are unquestionably of Chinese origin. The written character is just now as distinct from any alphabetical arrangement as it was some thousands of years ago; and the spoken language has not proceeded a single step beyond the original meagre and inflexible monosyllable." All this certainly goes to prove the Chinese to be a primitive people, and so far the circumstance is a moral curiosity; but at the same time it shows their inveterate and immoveable obstinacy in adhering to a system of characters so utterly unreducible to any kind of intelligible vocabulary. The foundation of the language is purely hieroglyphic and symbolical, including all the remarkable objects of nature, such as the sun, moon, earth, fire, water, wood, stone, a horse, a cow, a dragon, &c.; the utensils most commonly in use—a knife, a spoon, a box, &c.; the primary relations of life—a father, mother, brother, son, &c.; some of the most obvious qualities of bodies, as straightness, crookedness, &c. &c. To give a detail of the history of the Chinese language, through its various modifications and arrangements, would occupy the space of volumes, and to no purpose beyond the amusement it might afford to those antiquarians who delight in the investigation of matters as frivolous as they are obsolete. Suffice it to say, that the Chinese language, which has hitherto proved such a mystery to all the rest of the world, has at length been fathomed and rendered clear by the industry of British genius. In fact, the difficulties attending the acquisition of it have proved almost altogether visionary. The industry of Dr Marshalman and Dr Morrison has supplied us with grammars and dictionaries of this singular language, and placed within our reach all the supposed treasures it contained. "Europeans," says Mr Barrow, "have been deceived as to the vast number of characters in this language, which was supposed to create its difficulty. In the great Dictionary of Kaung-hee there are not more than 40,000 characters, of which about 30,000 only are in use. The Lexicon of Scapula contains about 44,000 words, Ainsworth's Dictionary 45,000, and Johnson's about the same number. The whole works of Confucius contain only about 3000 different characters. The *Leu-lee* may have, on the whole, about 100,000 characters, but not more than 1800 different ones throughout the whole work. Where, then, can there possibly be any difficulty?" The same writer also adduces numerous instances of Europeans acquiring the Chinese language in a comparatively short time.

From all that has yet been seen, the trouble of learning the Chinese language will be very inadequately compensated by the literary "treasures" of which Mr Barrow speaks. There are no doubt a profusion of *poems* (so called), novels, histories, and dramas, &c.; *but of what character* are they! From the translations *which we have yet been* favoured with, the poems, like some of Ossian's sublime passages, consist of unintelligible imagery; their novels of silly and pointless stories; their histories, as we have already seen, of fables; and their dramas, although for the most part true to nature, yet exhibiting nature in her most revolting forms. M. de Guignes, Mr Barrow, and other visiters of Pekin assure us that the theatrical exhibitions are beyond every thing abominable and disgusting.

It has furnished matter of surprise to all writers how a government so despotic as that of China should make the cultivation of letters a subject of such special anxiety. Even the intelligent Mr Barrow makes a marvel of this fact, notwithstanding that his own writings (had we no other authority) furnish a sufficient explanation of the seeming anomaly. It is true, there is a school to be found in every village of China, and that the instruction of the pupils forms one of the most anxious concerns of the government: but what is the nature or purpose of their education? To instruct them in all the erroneous doctrines of their parents—to confine their knowledge to the native productions of Chinese writers—to make, in short, Chinese politicians of them. The boasted system of education in China is not for the purpose of enlightening the people, but of keeping them in darkness. They are allowed to know nothing of other nations, and cannot therefore comprehend their own degraded and enslaved condition.

RELIGION.

The religion of the Chinese is allied in character to the Boodhism of the Birman empire, Japan, Siam, and other parts of Eastern Asia; and, under whatever name, it may be defined as a superstition intimately associated with ceremonial observances in pagodas and temples. According to Howard Malcom, the latest authority on the subject,* the Chinese are divided into three sects, namely, those of Ju-kea-su, Taou, and Boodh.

"The Jukeasuists are the followers of Kong-foo-tse, or, as the Jesuits Latinise it, Confucius, who flourished about 560 years before Christ, and was therefore contemporary with Pythagoras. He was of royal descent, and a mandarin, but early resigned official life, and devoted himself to literature, morals, and political economy. Reducing the maxims of former sages to order, he added valuable extracts from current works, and prudent sayings of his own, and produced a digest which continues to be the *ultima thule* of Chinese piety. Travelling extensively as a popular lecturer, and sustained, not less by his high birth and eloquent address, than by the excellence of his doctrines, he soon founded a sect which became virtually the state religion. It is, however, much less intolerantly maintained than either Popery or Protestantism, where united with the state. The other religions are allowed, and sometimes fostered. Great officers, and even the emperor himself, build and endow Boodhist and Taouist temples.

The system of Confucius is highly extolled by European writers, and most extravagantly by Chinese. As accounts of it are accessible to all readers, I need not stop to describe it. He seems to have regarded religion less than politics, and the burden of his works relates to social virtues, civil government, and adherence to ancestral habits.

The sect of Taou (literally *reason*) was founded by Laou-Keum, a contemporary and rival of Confucius. His followers may be called the mystics of China. They profess alchemy, assume mysterious airs, read destinies on the palms, and make great pretensions to deep research and superior light. Their practical works contain, in general, the same laudable precepts which distinguish the system of the Ju-kea-su.

The third sect follow Fo-e, sometimes spelled *Fuh*. Foe is said to be the old orthography of *Fuh*, which is the Chinese abbreviation of *Fuh-ta*, or Boodha. The Boodhism of China is the same as that of Birmah," (for an account of which we refer to the article PAGAN RELIGIONS, in the present series of papers.) "The sys-

* Travels in Hindustan and China. (People's Edition.)

telligence and mildness. His age is but thirty-eight, of course endeavoured to make the visit profitable m. My heart yearned over him; and when he ed me that he meant to visit America in a year or I was happy to promise him a most cordial recep-

Priests may leave the country and return, with- he restraints which make it dangerous to others. e whole number of priests in Canton is estimated 000; of nuns, 1000. The annual expense of the temples is 250,000 dollars. An equal sum is re- ed for the periodical festivals. Half a million, ally paid in one city for religion, by pagans! And whole amount which all Christendom gives for ns in a year, is but six times as much!"

r many years, Christian missionaries of different minations have been established at Canton, Macao, other parts of China; but they make little progress roselytising the population, on account of the diffi- es of the language and the rigorous adherence of natives to ancient customs. China likewise contains Mahommedans and Jews; and these, with the stians, seem to be tolerated merely on account of ublic usefulness and learning of the missionaries ese sects. The Christians, for the same reason, are most generally respected, but have been treated, time to time, with the most arbitrary capricious- being persecuted by one emperor and encouraged nother. In the year 1747, five missionaries were aded in Fo-kien, and two Jesuits strangled in the year in Kiang-nan, all of which was done "accord- o law," which says, that the chief of any sect who ces the people from their duties under religious nces, shall be strangled.

RVIEW OF MANNERS, CHARACTER, AND CONDITION.

om all we have said, it will be evident that civili- n has as yet advanced little beyond the infancy of t may be called agricultural society in China. It be readily admitted that they were amongst the of existing nations who arrived at a certain degree cellence; but it is not less evident that they have remained stationary, and have even in some points graded. "They can only be said," observes Mr Bar- "to be great in trifles, whilst they are really trifling ery thing that is great." The following assertion r William Jones may almost be literally adopted: Their letters, if we may so call them, are merely symbols of ideas: their philosophy is in so rude a as hardly to deserve the appellation; they have ncient monuments from which their origin may be ed, even by plausible conjecture; their sciences are lly exotic; and their mechanical arts have nothing em characteristic of a particular family—nothing h any set of men in a country so highly favoured t not have discovered and improved."

their moral qualities, the Chinese are a strange pound of vanity and meanness, affected gravity and frivolity—an utter want of all manly judgment and e, combined with the most insidious art and cunning, usual accompaniments of vulgar ignorance. The ar race are distinguished by a blunt and unstudied kness of manner and openness of disposition; but true Chinese betray the most debasing servility of and manner—plausible, sly, and artful. They not the slightest regard to truth, and will assert deny any thing with the most unblushing effrontery, g also entirely destitute of shame. The pain in- ed by the bamboo is the only consideration they ch to public and disgraceful corporal punishment. y have neither sense of honour nor self-respect. Chinese prince, or powerful mandarin," says a nt traveller, "will commit extortion or oppression never he can do it with impunity, and regards it as atter of right attached to his station. A Chinese ler will cheat and defraud whenever it is in his er, and even piques himself upon his skill in over- hing, as a proof of his talent. A Chinese peasant pilfer and steal whatever is within his reach, when- r he can hope to escape detection; and the whole

nation may be affirmed to have almost nothing in view but their own self-interest and security. Their general character, in short, in point of morals, compared with the minute enforcement of duty by the penal laws, affords an irresistible proof of the utter incompetency of legislation, without the aid of religious principle, to reach beyond the mere external conduct of individuals, or to produce any thing like real social virtue among human beings." In their feelings, the Chinese are cruel, sensual, and vindictive. Mr Barrow, M. de Guignes, and other travellers, all agree in their representations of the inhuman conduct of those in authority. One of the arbitrary laws of China is the compelling of the natives to pull the imperial barges alongst the canals; and Mr Barrow had several opportunities of witnessing the merciless exercise of this authority on the part of the military. The impressed labourers took, of course, every opportunity of deserting; and whenever there was a deficiency of hands, the despotic officials set off to the nearest hamlet, roused the natives out of bed with the whip, made them jump into the water to assist the towing operations, lashing them with long cart-whips all the while with the most ruthless barbarity. Mr Barrow also relates another specimen of Chinese indifference to human life, which he witnessed in passing down the great canal betwixt Canton and Pekin. Several persons who had crowded to the brink of the canal, had posted themselves upon the high projecting stern of an old vessel, which broke down with their weight, and precipitated the whole group into the water. Although numbers of boats were plying about at the very spot, not one was observed to go to the assistance of the drowning wretches, whose shrieks and cries were totally disregarded.

Nothing is so significant of the moral condition of a people as their treatment of the female sex, and nowhere are the women so inhumanly used as in China. They are not permitted to stir out of doors, excepting the wives of the lower orders, who are to be seen toiling at all kinds of laborious tasks, while their indolent husbands are sitting quietly smoking their pipes. In the country they are even to be seen drawing the plough and harrow, while their lazy helpmate drives them on.

The practice of deforming the feet of females of the better classes has long been prevalent. While still children, the feet are bound or compressed in such a manner as completely to prevent their growth. "At five, the rich man's daughter has her foot so firmly bound, that, in the native phrase, the whole is *killed*. The foot below the instep is pressed into a line with the leg, to add to the height of the little sufferer, while two of the toes are bent under the sole, that its breadth may be only of the least dimensions. The agony of such a process it would be hard to estimate; but it is said to last about six weeks, when I suppose the wasting of all the parts, and the cessation of many of their functions, have rendered the whole insensible to pain. The development of the muscles which form the calf of the leg being checked, the limb consequently tapers from its socket down to the foot, without any risings or inflections. This is regarded as the perfection of beauty by the Chinese, who say that the knee of the female is not protuberant, like the knee of the male, and is so well covered, that she can remain kneeling a long time without inconvenience. It is perhaps less throughout its length than when the foot is allowed to retain its natural size; but whether this be from the want of exercise, which ever acts as a stimulus to muscular deformity, or from the lack of nutriment through functional disturbance, I cannot take upon me to say; but I suspect the former is the real cause; otherwise the matter would grow from bad to worse, till the whole was destroyed by atrophy. A foot two inches in length is the idol of a Chinaman, on which he lavishes the most precious *epithets which nature* and language can supply. But *its beauties are altogether ideal*; for when stripped of *its gay investments*, it is a piteous mass of lifeless *integument, which* resembles the skin of a washer-woman's hand after it has undergone a long maceration in soap and water. The sight of it is well fitted to excite our compassion, not our commendation—a beautiful limb crushed into a heap of deformity! It was the custom in former ages for the dames to wear long robes, which swept upon the ground, and kept the feet out of sight: it would be an ingenious device for the ladies to restore them again to use, and allow the instruments of progression to retain their natural size in the asylum of a long train. Poets might still celebrate the little 'golden lilies,' in conformity with hoary custom; and it would be indifferent as to the morality of the thing, whether he said a foot was only two inches long, which was thrice that length; or called that the perfection of beauty which is, in truth, only a mass of deformity." *

Amongst the other moral iniquities of the Chinese, is the crime of infanticide; and from the contempt in which females are generally held, parents expose their female children without the slightest remorse. It is a part of the duty of the Pekin police to go their rounds with carts, at an early hour of the morning, to pick up the bodies of the infants that have been thrown out into the streets in the course of the night, and to carry them, without inquiry, to a common pit without the city walls, where they are thrown in promiscuously. It has been calculated that there are between 20,000 and 30,000 female infants thus yearly sacrificed in China!

In comparison with the lower orders of the Chinese, the condition of the slaves in our West India colonies was that of princes. They have scarcely an article of furniture, besides two or three jars, a few basins of coarse earthenware, a large iron pot, a frying-pan, and a portable stove. They use neither tables nor chairs, but at meals all the family sit upon their heels round a large pot, with a bowl in each of their hands. After taking the rice from the pot with a spoon, they then take their chop-sticks, which consist of two small pieces of wood, or generally of porcupines' quills, and are held between the two first fingers of the right hand. With this strange utensil they throw their food into their mouths with remarkable expedition. Boiled rice is their staple food, with the addition of millet or barley; but they likewise eat all sorts of animal and vegetable putrescent substances. The dead hogs thrown overboard the ships in the river at Canton, are greedily picked up by the natives; and in the public market, dogs, cats, and rats, are exhibited for sale. The most degrading social vice of the Chinese is that of opium-smoking, the effects of which are much worse than those from an indulgence in intoxicating liquors.

INTERCOURSE WITH FOREIGN NATIONS—BRITISH TEA-TRADE.

The systematic discouragement which the Chinese government offers to all intercourse with foreign nations, explains the trifling amount of commerce carried on in a country adapted better than any other in the world for its prosecution, whether we consider its geographical situation, its productions, or the genius of the people. The innumerable rivers and canals with which the country is intersected, present facilities for internal communication possessed by no other country; yet there is no regular system of trade amongst them; it consists almost solely of barter, there being no circulating medium, excepting a small copper coin, the value of which is almost too minute for calculation. It is reckoned, that on the grand Pekin canal there are upwards of 10,000 boats and barges of various descriptions continually employed in the interchange of national produce. Of the commercial capabilities of China, indeed, we have ample evidence in the immense number and crowded state of the cities. These are divided by the Chinese into three classes, according to the number of leagues which they occupy; and of the first class alone —or *imperial* cities, as they term them—the natives enumerate upwards of 4000. There is much exaggeration here, no doubt; but, even estimating the number

* Lay's "Chinese as they are."

reigners are not permitted to go ashore and re-
al pleasure at Canton. Their only land establish-
ts consist of hongs or factories, which extend in a
along the banks of the river, from which they are
ut about a hundred yards. They are built on a broad
, with a spacious promenade in front. The hongs
ctories individually consist of courts or lanes, ad-
ing of no thoroughfare, and solely dedicated to the
mmodation of the foreign residents. Large ware-
es for the reception of goods are adjacent. The
e of the Chinese suburbs which is most frequented
reigners, is termed China Street, consisting entirely
hops, in which the native dealers are to be seen
d from morning till night. Their tricks in entrap-
British seamen into purchasing their commodities,
long been matter of notoriety. Their signs usu-
ly exhibit an English name as well as a Chinese
and having picked up an acquaintance with the
familiar of Jack's expressions, their mode of ad-
ing their rough customers evinces at once the
ty and unscrupulous disposition of the natives.
he manner in which foreigners have heretofore con-
ed business at Canton is as follows:—When a ship
ves, it is necessary immediately to get a native mer-
t (or, as he is called, a hong merchant) to become
rity for the import and export dues, as well as for
good behaviour of the crew. In this there is never
d the slightest difficulty, there being, on the con-
y, always a competition amongst the natives for the
nor of a consignment. The import duties consist of
upon the different species of goods, as well as a
age upon the vessel. In addition to the tonnage and
o charges, there is also levied what is called a *kum-
*, or present to government, exigible from ships of
y burden alike. It has been estimated that all these
ous port charges, including the expenses of victual-
this ships, &c., amount to about 7000 dollars on
ip of 400 tons register.
he foreign merchants at Canton consist of British,
rican, French, Dutch, Danish, Swedish, Spanish,
uguese, and Indian British subjects, who in 1832
unted to 110. There are eight British establish-
ts, seven American, and one joint Dutch and French
blishment. Two English newspapers are published
anton; the Canton Register once a-fortnight, and
Chinese Courier once a-week.
he personal intercourse of Europeans with the
ese at Canton is chiefly carried on by means of a
erish (for it cannot be called a language) composed
nglish, Portuguese, Chinese, and other words, but
whole greatly broken or altered in sound, and pos-
ing no sort of grammatical construction.
t the entrance to an estuary of the river on which
ton is situated, is the island of Macao, containing a
of the same name, part of which forms a settle-
t or tenancy of the Portuguese, and here also the
llies of European merchants at Canton have been
ired to reside. The Portuguese privileges have
latterly much circumscribed, and their trade
tly diminished. "From Macao to the Boca Tigris
rue entrance of the river [proceeding upwards] is
forty miles, affording a very safe channel for the
est ships. As far as the Boca or Bogue, the whole
broad estuary of the sea, interspersed with islands,
hich the well-known Lintin lies just midway between
ao and the Bogue. Lintin is on the right of the
nel for ships, and abreast of it on the left is Lankeet
nd, forming behind it the harbour of Kumsing-moon,
re the opium ships of late years were accustomed to
t anchor in safety. There is no entrance to the Can-
river to the eastward of the Boca Tigris; but on the
the case is widely different; and it is there that
principal difficulties of a blockading squadron exist.
main part of the river flows through the Bogue;
to the westward there stretches a great delta, which
been gradually formed by depositions of soil from
turbid waters, and is crossed in all directions by
llow channels communicating with each other and
h Canton. Some of these channels form the inner

passage, by which the British traders used generally to proceed between Canton and Macao, passing a town called Heang-shan, the residence of the chief magistrate of the Macao district. These shallow channels to the westward, though they are impassable by English ships, present no obstacle to the flat-bottomed trading craft of the Chinese, below the size of the larger junks."*

It has been by means of the navigable inlet thus described, that nearly all intercourse with the Chinese has taken place; all the other ports which lie to the northward being shut against European commerce. The greatest possible care has at least been taken to prevent any intercourse by the river Yang-tse-Keang, which, by its connexion with the great canal, leads to Pekin and the chief northern districts.

The principal traders with the Chinese have latterly been the Americans and British. "The American intercourse with China," says M'Culloch, "commenced shortly after the termination of the revolutionary war, and has since gone on rapidly increasing, so as to constitute one of the most valuable branches of the trade of the United States." Mr M'Culloch gives a table showing the extent of the exports from Canton to America from 1804 to 1826–7, by which, in the last-mentioned year, it is seen that the Americans had twenty-six ships in the tea-trade, and that the total value of exports from China was 4,363,788 dollars. "The principal articles," continues this most accurate authority, "carried by the Americans to China, are bullion, furs, Turkey opium, English woollens and cottons, and ginseng. The commodities exported by the Americans from China are tea, nankeens, raw and wrought silk, sugar, cassia, and camphor, with minor articles." The Americans are exceedingly enterprising in this, as in every other trade in which they engage.

The British trade with Canton was formerly carried on by the East India Company, but by an act of parliament which came into operation in April 1834, the trade was thrown open to all classes of British subjects. From enjoying a monopoly, the East India Company were the only sellers of tea in this country, and could therefore regulate the price as they thought proper. It is but fair to say, that the Company did not abuse this monopoly; but, from the expensive manner in which the trade was carried on at Canton, the price of tea was greater in this country than it has been since competition was allowed. The duty on tea, down to the 22d April 1834, was 96 per cent. on all teas sold under two shillings a-pound, and 100 per cent. on all that were sold at or above two shillings. A discriminating scale of duties was afterwards established, with a view to allow the introduction of the cheapest kind of tea at the lowest duty; but it was found that merchants did not scruple to introduce better qualities of the article under inferior denominations; and to put an end to this impropriety, as well as stop all clamour on the subject, a statute was passed (1836), enacting that 2s. 1d. per lb. should be charged on all teas without exception, entered for home consumption in the United Kingdom. In 1835, the first year of open trade in tea, the imports to the United Kingdom amounted to 43,000,000 lbs., being more than 10,000,000 above what had ever been imported in any single year by the East India Company. In 1837, the imports were 36,973,981 lbs. (of which 30,625,206 were retained for home consumption), and the duties produced a revenue of £3,223,840. In exchange for the tea brought from China, there is imported into that country woollen and cotton articles, copper, iron, lead, glass, earthenware, and jewellery, the value of which in 1831 was £593,755. Bullion used formerly to be sent to China; but of late years it has been imported from China into England, instead of the contrary.

The preceding details refer to that condition of affairs which prevailed previously to 1838–9, when British intercourse with China was suddenly brought to a close *by events* consequent on the forcible suppression of the "opium-trade." As already mentioned, the C indulge in opium-smoking, but from the injurio of the practice, it is ostensibly prohibited, and th duction of the article is legally declared to be cont Notwithstanding the illegality of the traffic, h it has ever been extensively carried on, not in but open manner, by smuggling-vessels on th Remonstrances against it by the Chinese gove were generally disregarded, because the manda others sanctioned it for private reasons; and observed that all menaces on the subject were empty threats, apparently put forward for the external decency. Lulled into fancied securi feeling that they were more encouraged than raged, the British continued to pour in opium fro till, by a sudden outbreak, the whole stock in th at Canton was seized and publicly burnt, causin of from two to three millions of pounds sterlin parties interested. It is here necessary to menti the chief promoters of the opium trade were India Company, and the stoppage of it was prove most disastrous to British interests in th empire. The rajahs and petty princes of Hind the chief growers of the poppy, and it is impo conciliate their favour. The best opium is pro Malwa, a district of India. From that quarte at Bombay a duty of 125 rupees (£12, 10s.) p fetching in that market from 400 to 500 rup to £50). This quantity sells on the Chinese 700 dollars (£151, 5s. 4d.), and perhaps muc The temptation to get so large a profit sets all stopping the trade at defiance. "The opiu (observes Lord Jocelyn),* however hateful ma in the eyes of many, is, it must be recollected, of great benefit to the Indian government, ret have heard, a revenue of upwards of two mill a half yearly. It therefore becomes those wh eager for its suppression to point out some m making up the serious defalcation of revenue t necessarily accrue to the Indian governmen expenses already outrun its present income."

The seizure and destruction of the opium, known, precipitated a quarrel with China, whic (May 1841) far from being settled to the satisf the British people and government. The conte manner in which the Chinese have always tre English as well as other Europeans, has tended to aggravate the dispute. Puffed up with a degree of vanity, the Chinese government has the habit of treating and speaking of the Englis *barians*, and has on no account allowed the se of a consul or ambassador to watch over Briti rests. The only channel of communication h by a Chinese commissioner at Canton and a sioner or envoy from Britain, who in late ti not allowed to land. Added to this, the mean cun deceit of the Chinese have proved an obstacle t kind of fair negotiation. The depreciatory vie of the English power having frustrated the adjustment of the dispute, nothing was left the but to compel attention to their claims for compe and an apology for indignities, by force of arms. quently, the year 1840 was destined to present traordinary spectacle of a British naval and force on the coast of China. Chusan, an islan coast, was captured in the month of July, after resistance, and various other successes attended tish arms in a few months afterwards. Up till th we write, however, owing to the temporising the British commissioner, nothing definite has in the war, and we therefore leave it to the e events. Meanwhile, the tea-trade has suff material interruption, as it has been carried great measure under cover of other flags than tish, though with a loss to British naval interes

* Davis's Sketches of China: 1841.

* Six Months with the Chinese Expedition.

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OVERY—NAVIGATION.

imaginable form and extent. Like the land, also,
ars a luxuriant vegetation, consisting of plants
any various kinds, all of which are exactly suited
ir respective situations. The sea has likewise
ibes of animals, from the huge whale down to the
e coral insect, by whose incessant labours the
at rocky substances are constructed and reared to
rface of the waters. When the more elevated
berances in the bed of the ocean are raised above
rface level, they assume, as is well known, the
acter of islands, and when of a large size, of con-
ts. Thus, the tracts of dry land are in one sense
ps of mountains rising from the bosom of the

How islands are formed, sometimes by the
n of volcanoes bursting upwards in showers of lava
e midst of the sea, and sometimes by the gradual
mulation of matter deposited by coralline insects;
lso how tracts of land are added to continents, and
sometimes taken from them, by the influence of
nts, rivers, and other natural causes, has been
dy explained in the article GEOLOGY.

TIDES.

e waters of the sea may exhibit to the eye a calm
illed surface when not agitated by winds, but they
ever altogether still. Their ceaseless motion, which
he important effect of preserving them from stag-
n, is caused by two great risings and depressions,
wings and ebbings, of the waters, in the course of
ty-four hours, known by the name of tides. The
tides or flowings of the sea are experienced daily
ver the globe, though in some seas, from peculiar
causes, they are less powerful than in other places.
not a little remarkable that the condition of high
r or full tide occurs at directly opposite sides of
arth at the same time. When it is high water at
tude 0, it is also high water at longitude 180, and
with every other two opposite points of the earth,
e same parallel of latitude.

has been ascertained, beyond all reasonable doubt,
the tides are caused by the attractive influence of
noon. By the universal law of attraction or gravi-
n, all masses of matter have a tendency to be
cted or drawn towards each other. The moon,
efore, as a mass of matter, in passing round the
n, has a tendency to draw the earth after it, or out
s natural relative position, and it really does so to
all extent. As it passes round, it draws up the
rs in a protuberance, or, in common language, draws
ge wave after it. But it also draws the land be-
h the protuberance, and so causes the opposite side
e globe to be drawn away from the ocean, leaving
waters there to form a similar protuberance or high
. In the one case, the water is drawn directly up
wards the moon; in the other, the water is in some
e left behind by the land being pulled away from
In both a similar effect is produced; two high
are caused at opposite extremities of the earth.

between those two points. A tide requires six hours to rise, which it does by small impulses or ripplings of the water on the shore, and six hours to ebb or fall; but every successive high water is from twenty to twenty-seven minutes later than the preceding, or, on an average, about fifty minutes for two tides, in consequence of the earth requiring that time above the twenty-four hours to bring any given point again beneath the moon. The tides are thus retarded by the same reason that the moon rises fifty minutes later every day. It is evident that the tides will be greatest at that point of the earth's surface which is nearest to the moon, or where the latter is vertical. She is so between the tropics; and accordingly the tides are there greatest, and they diminish as we approach either poles. It is further to be remarked, that the moon does not anywhere draw up the tides immediately. Three hours elapse before the waters are raised, in consequence of the law of inertia, or a disposition which every body has to continue in the condition of rest or motion in which it happens to be placed. This stubbornness to resist the moon's influence is only overcome by a three hours' action upon the waters; and thus the tidal wave is always three hours behind the moon in its passage. Twice a-year, namely, in March and September, the tides are higher than at other times, because then the attraction of the sun and moon are strongest. In some of the firths or arms of the sea on the east coast of Scotland, it has been occasionally noticed that there have been four high waters in the twenty-four hours. These, however, are not simple tides. The double risings are caused by the irregular passage of the tidal wave from the Atlantic round the north and south points of the island of Great Britain. When that portion of the wave which proceeds by the south reaches the east coast sooner than that by the north, or vice versa, there will be two risings of the water instead of one. A similar phenomenon may perhaps be observed in other parts of the earth. In the Mediterranean Sea the tides are small, and in some places scarcely perceptible; this is caused by the general confinement of that inland branch of the ocean by the Straits of Gibraltar, which prevent the full action of the tidal wave either in its rising or recession.

CURRENTS.

Gulf Stream, which is perhaps the mos
current in the world.

It is obvious, that to the mariner
be of great importance. From Portuga
ships have sailed to the Bights of
Guinea coast, being 150 leagues, in tw
they could not return in less than seve
also common for vessels to descend to
the Canary Islands, in order to get in
current across the Atlantic, which ca
America in a comparatively short time:
current that Columbus was carried so
his first voyage to the new continent.
is said, can be crossed in this way in ab
being at the rate of 1000 miles per we
mariners have expressed an opinion tha
be reached by this route in less time than
course round the Cape of Good Hope.

For the same reason that the sea flow
west, the air has a tendency, when no
by other causes, to move in the same d
earth in its motion leaves the air, like
behind it; in other words, does not carr
ward: hence what are called the trade
operating in the same direction with th
increase the facility of navigation to the
very great degree. It is impossible to
ing, that these natural phenomena, whi
supposed, might have been counteract
lised from the beginning, must have bee
some end useful and necessary in the e
world. Perhaps, like the diffusive powe
seeds of certain plants, they were intend
dispersion of the human race over the gl
known that population exists in many
appear cut off from all connection with
that must have been impassable by na
early ages of their art. Men could onl
such places in early ages by the curre
and air; and thus the cultivation of large
regions must have commenced much earl
have otherwise been the case.

Besides the grand equatorial or tro
there is one of a less decided character
to the equator. The sea under the trop
to a greater extent than elsewhere, by

r, on arriving at which they are dispersed into aqueo-
vapours, and rise whirling round in a spiral direc-
towards the cloud. This conical ascending column
et by another descending column, which leans to-
ls the water, and joins with it. In many cases the
ne column is from fifty to eighty toises (fathoms)
ameter near its base. Both columns, however,
nish towards the middle, where they unite; as
here they are not more than three or four feet
ameter. The entire column presents itself in the
e of a hollow cylinder, or tube of glass empty within.
ides over the sea without any wind being felt; in-
several have been seen at once following different
tions. When the cloud and the marine base of
aterspout move with unequal velocities, the lower
is often seen to incline sideways, or even to bend,
inally to burst in pieces. A noise is then heard
the noise of a cataract falling in a deep valley.
ning frequently issues from the very bosom of
waterspout, particularly when it breaks; but no
der is ever heard."

ilors, to prevent the imminent danger which their
ls would be exposed to by coming in contact with
tremendous columns, discharge upon them a
n ball, which, passing through them, causes them
riably to burst, and consequently removes all
e of injury connected with them. This pheno-
n is accounted for in the following manner:—
winds meet—a vortex ensues; any cloud which
ens to lie between them is condensed into a coni-
rm, and turned round with great velocity: this
ling motion drives from the centre of the cloud all
articles contained in it; a vacuum is thereby pro-
d, and water, or any other body lying beneath this
um, is carried into it upon the usual and well-
n principle. The cannon ball, breaking this cylin-
which is always partly hollow, causes it to fall to
s, in the same manner as a touch upon the surface
soap-ball reduces the resplendant mass to a drop
mmon water.

TEMPERATURE OF THE SEA.

e temperature of the sea, like that of the air, is
to be affected by the latitude and the season of
ear, but not to nearly so great an extent as the
Within the tropics, where the season has hardly
influence, it is generally found at about 80 or 81
ahrenheit's thermometer, being somewhat more,
neral, than the warmth of the neighbouring air,
is deprived to a certain extent of its heat, in
to carry on the process of evaporation. Taking
onth of March as one of those during which the
of the sun must be equally determined in both
tions by latitude, we find that in that month the
as been found, at 11° 32′ south, of 80.6 Fahren-
at 31° 34′ south, of 73.7; at 40° 36′ south, of
; though in some instances it has been found
al degrees more or less at the same season, and
r nearly the same latitude. The chief cause of
ariation is the perpetual flow of water from the
to the equator, which has been already explained.
s been pretty nearly ascertained, that, in the tro-
seas, it ranges about 9 degrees of Fahrenheit; in
iddle of the temperate zone about 12; and after
decreases with a more rapid and more equable
tion. The temperature of the sea is also affected
depth. In deep seas between the tropics, the
diminishes towards the bottom; while, in more
latitudes, it is sometimes observed to become
er. The sea is a bad conductor of heat; the
rays can only penetrate about three hundred feet
the surface, nor does the light descend any
r. A small difference is discovered between the
vations on temperature in the two hemispheres.
he first 25° towards the south, the decrease of
is slower, and after that more rapid, than towards
orth.

must be evident to every one who considers the
mass of waters composing the ocean, and the

cleaning the ears, tweaking the nose, beating the back, pulling the joints till they crack; in short, we may sum up our account of Chinese knowledge of the healing art with the remark of the late Dr Gregory of Edinburgh, that "the emperor of China could not command in all his dominions such medical aid as a smart boy of sixteen, who had been apprentice for one year to a well-employed Edinburgh surgeon, would be able to afford."

LANGUAGE AND LITERATURE.

The language of the Chinese is another branch of their history, respecting which the rest of the world has been impressed with the most preposterous and exaggerated ideas. It has been represented as consisting of millions of characters—as being perfectly unattainable by foreigners, and so forth; and thus has this truly barbarous nation acquired a reputation for philological science as spurious as that which they have enjoyed for other branches of antique erudition. "It is true," as Mr Barrow says, "that their language, more than any thing else, stamps them as an original people. It has no resemblance whatever to any other language, living or dead, ancient or modern. It has neither borrowed nor lent any thing to any other nation or people, excepting to those who are unquestionably of Chinese origin. The written character is just now as distinct from any alphabetical arrangement as it was some thousands of years ago; and the spoken language has not proceeded a single step beyond the original meagre and inflexible monosyllable." All this certainly goes to prove the Chinese to be a primitive people, and so far the circumstance is a moral curiosity; but at the same time it shows their inveterate and immoveable obstinacy in adhering to a system of characters so utterly unreducible to any kind of intelligible vocabulary. The foundation of the language is purely hieroglyphic and symbolical, including all the remarkable objects of nature, such as the sun, moon, earth, fire, water, wood, stone, a horse, a cow, a dragon, &c.; the utensils most commonly in use—a knife, a spoon, a box, &c.; the primary relations of life—a father, mother, brother, son, &c.; some of the most obvious qualities of bodies, as straightness, crookedness, &c. &c. To give a detail of the history of the Chinese language, through its various modifications and arrangements, would occupy the space of volumes, and to no purpose beyond the amusement it might afford to those antiquarians who delight in the investigation of matters as frivolous as they are obsolete. Suffice it to say, that the Chinese language, which has hitherto proved such a mystery to all the rest of the world, has at length been fathomed and rendered clear by the industry of British genius. In fact, the difficulties attending the acquisition of it have proved almost altogether visionary. The industry of Dr Marshalman and Dr Morrison has supplied us with grammars and dictionaries of this singular language, and placed within our reach all the supposed treasures it contained. "Europeans," says Mr Barrow, "have been deceived as to the vast number of characters in this language, which was supposed to create its difficulty. In the great Dictionary of Kaung-hee there are not more than 40,000 characters, of which about 30,000 only are in use. The Lexicon of Scapula contains about 44,000 words, Ainsworth's Dictionary 45,000, and Johnson's about the same number. The whole works of Confucius contain only about 3000 different characters. The *Leu-lee* may have, on the whole, about 100,000 characters, but not more than 1860 different ones throughout the whole work. Where, then, can there possibly be any difficulty?" The same writer also adduces numerous instances of Europeans acquiring the Chinese language in a comparatively short time.

From all that has yet been seen, the trouble of learning the Chinese language will be very inadequately compensated by the literary "treasures" of which Mr Barrow speaks. There are no doubt a profusion of poems (so called), novels, histories, and dramas, &c.; but of what character are they? From the translations which we have yet been favoured with, the poems, like some of Ossian's sublime passages, consist of gible imagery; their novels of silly and pointles their histories, as we have already seen, of fal their dramas, although for the most part true yet exhibiting nature in her most revolting fo de Guignes, Mr Barrow, and other visiters assure us that the theatrical exhibitions ar every thing abominable and disgusting.

It has furnished matter of surprise to al how a government so despotic as that of Chi make the cultivation of letters a subject of suc anxiety. Even the intelligent Mr Barrow mak vel of this fact, notwithstanding that his own (had we no other authority) furnish a sufficie nation of the seeming anomaly. It is true, t school to be found in every village of China, the instruction of the pupils forms one of anxious concerns of the government: but wh nature or purpose of their education? To instr in all the erroneous doctrines of their parents. fine their knowledge to the native productions o writers—to make, in short, Chinese politicians The boasted system of education in China is n purpose of enlightening the people, but of keep in darkness. They are allowed to know nothing nations, and cannot therefore comprehend th degraded and enslaved condition.

RELIGION.

The religion of the Chinese is allied in cha the Boodhism of the Birman empire, Japan, S other parts of Eastern Asia; and, under whatev it may be defined as a superstition intimately as with ceremonial observances in pagodas and According to Howard Malcom, the latest auth the subject,* the Chinese are divided into thr namely, those of Ju-kea-su, Taou, and Boodh.

"The Jukeasuists are the followers of Kong or, as the Jesuits Latinise it, Confucius, who fl about 560 years before Christ, and was theref temporary with Pythagoras. He was of royal and a mandarin, but early resigned official devoted himself to literature, morals, and politi nomy. Reducing the maxims of former sages t he added valuable extracts from current wor prudent sayings of his own, and produced which continues to be the *ultima thule* of Chines Travelling extensively as a popular lecturer, a tained, not less by his high birth and eloquent than by the excellence of his doctrines, he soon a sect which became virtually the state religion however, much less intolerantly maintained tha Popery or Protestantism, where united with th The other religions are allowed, and sometimes f Great officers, and even the emperor himself, b endow Boodhist and Taouist temples.

The system of Confucius is highly extolled by pean writers, and most extravagantly by Chines accounts of it are accessible to all readers, I n stop to describe it. He seems to have regarded less than politics, and the burden of his works to social virtues, civil government, and adher ancestral habits.

The sect of Taou (literally *reason*) was foun Laou-Keum, a contemporary and rival of Co His followers may be called the mystics of China profess alchemy, assume mysterious airs, read d on the palms, and make great pretensions to d search and superior light. Their practical wor tain, in general, the same laudable precepts whi tinguish the system of the Ju-kea-su.

The third sect follow Fo-e, sometimes spelle Foe is said to be the old orthography of *Fuh*, w the Chinese abbreviation of *Fuh-ta*, or Boodha. Boodhism of China is the same as that of Bi (for an account of which we refer to the article RELIGIONS, in the present series of papers.) "T

* Travels in Hindustan and China. (People's Editio

tism is certainly far older than either of the others. It is generally supposed to have been introduced about A.D. 70. Kempfer dates the introduction about A.D. 518, when 'Darma, a great saint, came from the west, and laid the foundation,' &c. Chinese historians agree that the worship of Fohi was originally brought from India. Sir William Jones says confidently, 'Boodh was unquestionably the Fo-e of China.'

This sect probably embraces one-third of the entire population. The government acts with indecision towards it, at one time denouncing it as dangerous, and at another contributing to its support. M. Gutzlaff saw at Pooto some placards calling on the people, in the name of the emperor, to repair to the Boodhist temple of that place, in order to propitiate Heaven for a fruitful spring. The priests are numerous, but not greatly respected. I saw some of them in the streets daily. A few were exceedingly well-dressed, but generally they were both shabby and dirty, sometimes quite ragged."

Mr Malcom gives the following account of a visit to a Boodhist temple at Canton:—"There are 124 temples in Canton, besides the numerous public altars seen in the streets. I saw the principal ones without the walls, which are said not to be inferior, on the whole, to those within. They strikingly resemble the monasteries of Europe. The handsomest is one of the Boodhists, in the suburb of Ho-nan, on the opposite side of the river. Being accompanied by Messrs Bridgman, Parker, and Morrison, who were acquainted with the superior, I was not only shown every part by his order, but had the pleasure of his society for an hour. Cloisters, corridors, courtyards, chapels, image-houses, and various offices, are scattered, with little regard to order, over a space of five or six acres. Priests, with shaven crowns and rosaries, loitered about; but I never saw common people come to worship either at this or other establishments. Some of the priests occupied small and mean apartments; but those of the superior are spacious, and furnished not only with the ordinary conveniences, but with chandeliers, mirrors, pictures, &c., and with an extensive library. The buildings are chiefly of brick, one storey high, the walks handsomely flagged, and the courtyard ornamented with large trees, or beautiful parterres of flowers. The printing-office contains stereotype plates enough to load a small vessel, so arranged as that every work is readily accessible. The principal apartment or temple is about 100 feet square, with the usual images, &c. We attended here to witness the regular evening service. It seemed to create little interest, for out of 160 resident priests, there were but fifty present; and these uttered their repetitions with the most obvious indifference. Their prayers are in Pali ostensibly, but I am told not truly, as their mode of writing renders it utterly unintelligible to any one. They keep time by striking a wooden drum, and occasionally a bell. At a certain stage of the process, the whole company formed into single file, and marched round the hall, without ceasing their repetitions. This gave us a full view of their countenances; and so far as these indicated, a more stupid set could not be picked out in all Canton. I have already remarked this characteristic of the Boodhist priesthood in other countries, and am confirmed in the belief of its being attributable to the character of their religion, and the nature of their duties.

Instead of the humble dress of Birman and Siam priests, these wear as handsome as they can get, with shoes and stockings. What is worse, some are in rags, barefoot, and squalid, with apparent poverty. They have, however, a common refectory, where I presume all fare alike. The buildings were erected at different times by the munificence of individuals, and by the revenues of the establishment, which amount to about 8000 dollars per annum.

While we walked over the premises, the superior had prepared us a repast of sweetmeats and fruits, to which he sat down with us. His manners were easy and elegant, his dress unostentatious, and his countenance full of intelligence and mildness. His age is but thirty-eight. We of course endeavoured to make the visit profitable to him. My heart yearned over him; and when he assured me that he meant to visit America in a year or two, I was happy to promise him a most cordial reception. Priests may leave the country and return, without the restraints which make it dangerous to others.

The whole number of priests in Canton is estimated at 2000; of nuns, 1000. The annual expense of the 124 temples is 250,000 dollars. An equal sum is required for the periodical festivals. Half a million, annually paid in one city for religion, by pagans! And the whole amount which all Christendom gives for pagans in a year, is but six times as much!"

For many years, Christian missionaries of different denominations have been established at Canton, Macao, and other parts of China; but they make little progress in proselytising the population, on account of the difficulties of the language and the rigorous adherence of the natives to ancient customs. China likewise contains some Mahommedans and Jews; and these, with the Christians, seem to be tolerated merely on account of the public usefulness and learning of the missionaries of these sects. The Christians, for the same reason, are the most generally respected, but have been treated, from time to time, with the most arbitrary capriciousness, being persecuted by one emperor and encouraged by another. In the year 1747, five missionaries were beheaded in Fo-kien, and two Jesuits strangled in the same year in Kiang-nan, all of which was done "according to law," which says, that the chief of any sect who seduces the people from their duties under religious pretences, shall be strangled.

REVIEW OF MANNERS, CHARACTER, AND CONDITION.

From all we have said, it will be evident that civilisation has as yet advanced little beyond the infancy of what may be called agricultural society in China. It may be readily admitted that they were amongst the first of existing nations who arrived at a certain degree of excellence; but it is not less evident that they have long remained stationary, and have even in some points retrograded. "They can only be said," observes Mr Barrow, "to be great in trifles, whilst they are really trifling in every thing that is great." The following assertion of Sir William Jones may almost be literally adopted:—"Their letters, if we may so call them, are merely the symbols of ideas: their philosophy is in so rude a state as hardly to deserve the appellation; they have no ancient monuments from which their origin may be traced, even by plausible conjecture; their sciences are wholly exotic; and their mechanical arts have nothing in them characteristic of a particular family—nothing which any set of men in a country so highly favoured might not have discovered and improved."

In their moral qualities, the Chinese are a strange compound of vanity and meanness, affected gravity and real frivolity—an utter want of all manly judgment and sense, combined with the most insidious art and cunning, the usual accompaniments of vulgar ignorance. The Tartar race are distinguished by a blunt and unstudied frankness of manner and openness of disposition; but the true Chinese betray the most debasing servility of tone and manner—plausible, sly, and artful. They have not the slightest regard to truth, and will assert and deny any thing with the most unblushing effrontery, being also entirely destitute of shame. The pain inflicted by the bamboo is the only consideration they attach to public and disgraceful corporal punishment. They have neither sense of honour nor self-respect. "A Chinese prince, or powerful mandarin," says a recent traveller, "will commit extortion or oppression whenever he can do it with impunity, and regards it as a matter of right attached to his station. A Chinese trader will cheat and defraud whenever it is in his power, and even piques himself upon his skill in overreaching, as a proof of his talent. A Chinese peasant will pilfer and steal whatever is within his reach, whenever he can hope to escape detection; and the whole

nation may be affirmed to have almost nothing in view but their own self-interest and security. Their general character, in short, in point of morals, compared with the minute enforcement of duty by the penal laws, affords an irresistible proof of the utter incompetency of legislation, without the aid of religious principle, to reach beyond the mere external conduct of individuals, or to produce any thing like real social virtue among human beings." In their feelings, the Chinese are cruel, sensual, and vindictive. Mr Barrow, M. de Guignes, and other travellers, all agree in their representations of the inhuman conduct of those in authority. One of the arbitrary laws of China is the compelling of the natives to pull the imperial barges alongst the canals; and Mr Barrow had several opportunities of witnessing the merciless exercise of this authority on the part of the military. The impressed labourers took, of course, every opportunity of deserting; and whenever there was a deficiency of hands, the despotic officials set off to the nearest hamlet, roused the natives out of bed with the whip, made them jump into the water to assist the towing operations, lashing them with long cart-whips all the while with the most ruthless barbarity. Mr Barrow also relates another specimen of Chinese indifference to human life, which he witnessed in passing down the great canal betwixt Canton and Pekin. Several persons who had crowded to the brink of the canal, had posted themselves upon the high projecting stern of an old vessel, which broke down with their weight, and precipitated the whole group into the water. Although numbers of boats were plying about at the very spot, not one was observed to go to the assistance of the drowning wretches, whose shrieks and cries were totally disregarded.

Nothing is so significant of the moral condition of a people as their treatment of the female sex, and nowhere are the women so inhumanly used as in China. They are not permitted to stir out of doors, excepting the wives of the lower orders, who are to be seen toiling at all kinds of laborious tasks, while their indolent husbands are sitting quietly smoking their pipes. In the country they are even to be seen drawing the plough and harrow, while their lazy helpmate drives them on.

The practice of deforming the feet of females of the better classes has long been prevalent. While still children, the feet are bound or compressed in such a manner as completely to prevent their growth. "At five, the rich man's daughter has her foot so firmly bound, that, in the native phrase, the whole is *killed*. The foot below the instep is pressed into a line with the leg, to add to the height of the little sufferer, while two of the toes are bent under the sole, that its breadth may be only of the least dimensions. The agony of such a process it would be hard to estimate; but it is said to last about six weeks, when I suppose the wasting of all the parts, and the cessation of many of their functions, have rendered the whole insensible to pain. The development of the muscles which form the calf of the leg being checked, the limb consequently tapers from its socket down to the foot, without any risings or inflections. This is regarded as the perfection of beauty by the Chinese, who say that the knee of the female is not protuberant, like the knee of the male, and is so well covered, that she can remain kneeling a long time without inconvenience. It is perhaps less throughout its length than when the foot is allowed to retain its natural size; but whether this be from the want of exercise, which ever acts as a stimulus to muscular deformity, or from the lack of nutriment through functional disturbance, I cannot take upon me to say; but I suspect the former is the real cause; otherwise the matter would grow from bad to worse, till the whole was destroyed by atrophy. A foot two inches in length is the idol of a Chinaman, on which he lavishes the most precious epithets which nature and language can supply. But its beauties are altogether ideal; for when stripped of its gay investments, it is a piteous mass of lifeless integument, which resembles the skin of a washer-woman's hand after it has undergone a long macer tion in soap and water. The sight of it is well fit to excite our compassion, not our commendation- beautiful limb crushed into a heap of deformity! was the custom in former ages for the dames to we long robes, which swept upon the ground, and kept t feet out of sight: it would be an ingenious device f the ladies to restore them again to use, and allow t instruments of progression to retain their natural s in the asylum of a long train. Poets might still cel brate the little 'golden lilies,' in conformity with hon custom; and it would be indifferent as to the morali of the thing, whether he said a foot was only two inch long, which was thrice that length; or called that t perfection of beauty which is, in truth, only a mass deformity." *

Amongst the other moral iniquities of the Chines is the crime of infanticide; and from the contempt which females are generally held, parents expose the female children without the slightest remorse. It is part of the duty of the Pekin police to go their roun with carts, at an early hour of the morning, to pick u the bodies of the infants that have been thrown out in the streets in the course of the night, and to carry the without inquiry, to a common pit without the city wal where they are thrown in promiscuously. It has be calculated that there are between 20,000 and 30,0 female infants thus yearly sacrificed in China!

In comparison with the lower orders of the Chines the condition of the slaves in our West India colon was that of princes. They have scarcely an article furniture, besides two or three jars, a few basins coarse earthenware, a large iron pot, a frying-pan, a a portable stove. They use neither tables nor chair but at meals all the family sit upon their heels round large pot, with a bowl in each of their hands. Aft taking the rice from the pot with a spoon, they then ta their chop-sticks, which consist of two small pieces wood, or generally of porcupines' quills, and are he between the two first fingers of the right hand. Wi this strange utensil they throw their food into the mouths with remarkable expedition. Boiled rice their staple food, with the addition of millet or barley but they likewise eat all sorts of animal and vegetab putrescent substances. The dead hogs thrown ove board the ships in the river at Canton, are greedi picked up by the natives; and in the public marke dogs, cats, and rats, are exhibited for sale. The mo degrading social vice of the Chinese is that of opium smoking, the effects of which are much worse than thos from an indulgence in intoxicating liquors.

INTERCOURSE WITH FOREIGN NATIONS—BRITISH TEA-TRADE.

The systematic discouragement which the Chines government offers to all intercourse with foreign n tions, explains the trifling amount of commerce carrie on in a country adapted better than any other in th world for its prosecution, whether we consider i geographical situation, its productions, or the genius the people. The innumerable rivers and canals wit which the country is intersected, present facilities fo internal communication possessed by no other country yet there is no regular system of trade amongst them it consists almost solely of barter, there being no ci culating medium, excepting a small copper coin, th value of which is almost too minute for calculation. is reckoned, that on the grand Pekin canal there ar upwards of 10,000 boats and barges of various descri tions continually employed in the interchange of nation produce. Of the commercial capabilities of China, in deed, we have ample evidence in the immense numbe and crowded state of the cities. These are divided b the Chinese into three classes, according to the numbe of leagues which they occupy; and of the first class alon —or *imperial* cities, as they term them—the native enumerate upwards of 4000. There is much exagge ration here, no doubt; but even estimating the numbe

* Lay's "Chinese as they are."

communities at a third, or even a fourth, of
set down by the Chinese, what an enormous
f consumption for all the necessaries of life is
wn! What an unbounded mart for all kinds
h manufactures would be thrown open by the
of the government restrictions upon commerce!
e people of China are anxious for this free in-
e with other nations, has been abundantly
and in fact their greedy and peculatory dispo-
fficiently guarantees the readiness with which
uld engage in foreign traffic. But the all-
. constraints of the government hang like a mill-
and their necks. Whatever be the ignorance
wer classes, there is no want of enlightenment
:ecutive, which is conscious that a free trade
evitably lead to the breaking up of the whole
system of ruling. Their jealousy, indeed, is not
to be wondered at, considering the precedent
hem in the rise of the British power in the
ring peninsula of India; the only wonder is,
d all the turmoils of war which have disturbed
d during so many ages, this country, so fertile
' thing which can make a country desirable,
ave remained comparatively unmolested.
vell known that the foreign trade of China is
exclusively to one port—that of Canton. The
l trade with Russia and India has now almost
ceased. So great is their jealousy of the Rus-
deed, that the latter are the only people inter-
om even visiting Canton.
oes not appear to have been known in Britain
to 1650; and it is evident, from the following
Mr Pepys' Diary, that many years elapsed pre-
o its coming into general use:—"September 25,
[sent for a cup of tea (a China drink), of which
never drunk before." And in 1664, there is
made of the East India Company commission-
e foreign agent to purchase 2 lbs. 2 oz. of tea
sent to his majesty! From this time forward,
, the consumption of tea increased with a rapi-
rcely less wonderful than the progress of the
cotton manufacture.
n, at which the principal foreign commerce
d on by the Chinese, and at which all the ex-
tea take place, is situated on the eastern bank
river Pekiang, a beautiful placid stream, as
the Thames at London. This great outlet of
trade is about 400 miles in length, and Canton
t the distance of 80 miles from its mouth. Can-
ists of two descriptions of towns—that which
ed by walls, and the suburbs; both together,
said to contain from seven to eight hundred
d inhabitants. The circuit of the walls, which
moderate height, and furnished with a few
is estimated by some at five, and by others at
les. Only about a third part, however, of the
nclosed is covered with buildings; the rest is
l with pleasure-grounds and fish-ponds. The
uring country is very charming—hilly towards
, and presenting in that quarter a beautiful
t. The streets are long and narrow; the houses
y low, and towering above them may be seen
and pagodas. At night the gates are closed, and
own across the entrance to the streets. From
losed city, as well as from every other town in
ll foreigners are rigorously excluded; and these,
obtain permission, must take up their abode
burbs, which contain a very miscellaneous popu-
ough not therefore inferior in point of accommo-
r appearance. But the most curious particular
ng Canton is the existence of a floating town on
r, consisting of perhaps forty or fifty thousand
junks, and vessels of various kinds, arranged
each other in regular rows, with passages be-
hem to allow other vessels to pass. This float-
n extends several miles in length. For what
we know not, the owners of these vessels and
milies are not allowed to come ashore, and so
end the whole of their lives on the water.

Foreigners are not permitted to go ashore and reside at pleasure at Canton. Their only land establishments consist of *hongs* or factories, which extend in a line along the banks of the river, from which they are distant about a hundred yards. They are built on a broad quay, with a spacious promenade in front. The hongs or factories individually consist of courts or lanes, admitting of no thoroughfare, and solely dedicated to the accommodation of the foreign residents. Large warehouses for the reception of goods are adjacent. The place of the Chinese suburbs which is most frequented by foreigners, is termed China Street, consisting entirely of shops, in which the native dealers are to be seen seated from morning till night. Their tricks in entrapping British seamen into purchasing their commodities, have long been matter of notoriety. Their signs uniformly exhibit an English name as well as a Chinese one; and having picked up an acquaintance with the most familiar of Jack's expressions, their mode of addressing their rough customers evinces at once the crafty and unscrupulous disposition of the natives.

The manner in which foreigners have heretofore conducted business at Canton is as follows:—When a ship arrives, it is necessary immediately to get a native merchant (or, as he is called, a hong merchant) to become security for the import and export dues, as well as for the good behaviour of the crew. In this there is never found the slightest difficulty, there being, on the contrary, always a competition amongst the natives for the honour of a consignment. The import duties consist of a tax upon the different species of goods, as well as a tonnage upon the vessel. In addition to the tonnage and cargo charges, there is also levied what is called a *kumshaw*, or present to government, exigible from ships of every burden alike. It has been estimated that all these various port charges, including the expenses of victualling the ships, &c., amount to about 7000 dollars on a ship of 400 tons register.

The foreign merchants at Canton consist of British, American, French, Dutch, Danish, Swedish, Spanish, Portuguese, and Indian British subjects, who in 1832 amounted to 110. There are eight British establishments, seven American, and one joint Dutch and French establishment. Two English newspapers are published in Canton; the Canton Register once a-fortnight, and the Chinese Courier once a-week.

The personal intercourse of Europeans with the Chinese at Canton is chiefly carried on by means of a gibberish (for it cannot be called a language) composed of English, Portuguese, Chinese, and other words, but the whole greatly broken or altered in sound, and possessing no sort of grammatical construction.

At the entrance to an estuary of the river on which Canton is situated, is the island of Macao, containing a town of the same name, part of which forms a settlement or tenancy of the Portuguese, and here also the families of European merchants at Canton have been suffered to reside. The Portuguese privileges have been latterly much circumscribed, and their trade greatly diminished. "From Macao to the Boca Tigris or true entrance of the river [proceeding upwards] is just forty miles, affording a very safe channel for the largest ships. As far as the Boca or Bogue, the whole is a broad estuary of the sea, interspersed with islands, of which the well-known Lintin lies just midway between Macao and the Bogue. Lintin is on the right of the channel for ships, and abreast of it on the left is Lankeet Island, forming behind it the harbour of Kumsing-moon, where the opium ships of late years were accustomed to lie at anchor in safety. There is no entrance to the Canton river to the eastward of the Boca Tigris; but on the west the case is widely different; and it is there that the principal difficulties of a blockading squadron exist. The main part of the river flows through the Bogue; but to the westward there stretches a great delta, which has been gradually formed by depositions of soil from the turbid waters, and is crossed in all directions by shallow channels communicating with each other and with Canton. Some of these channels form the *inner*

absorbed. Then the land air, being below the temperature of the sea air, rushes in to supply its place, and thus during the night, a land-breeze, or a current of air from the land to the sea, is produced. When the sea-breeze first sets in, it commences very near the shore, and gradually extends itself farther out at sea, and, as the day advances, becomes more or less hot. Hence, the sails of ships have been observed quite becalmed six or eight miles out at sea, while at the same time a fresh sea-breeze has been blowing upon the shore. The cause of this is obvious; for it is natural to suppose that the mass of air nearest the land will be the first to rush in, for the purpose of supplying the place of the air which is rarified immediately above it. On this account the effect of the sea-breeze is said not to be perceptible at a distance of more than five or six leagues from the shore, and for the most part becomes fainter in proportion to its distance from land. The distance, on the other hand, to which the land-breeze extends in blowing across the sea, depends on the more or less exposed aspect of the coast from which it proceeds. In some places this breeze was found by Dampier brisk three or four leagues off shore; in other places not so many miles; in others, again, it scarcely extended without the rocks. The sea-breeze, from blowing over a more open tract, is always stronger than the land-breeze; but it is observed that the land-breeze is much colder than the sea-breeze. Furthermore, it has been noticed that the tendency of the land-breeze at night has almost invariably a correspondence with the sea-breeze of the preceding or following day. "Should the land-wind from being east, draw, in the course of the night, towards the north, it would be looked upon," says Marsden, in his *History of Sumatra*, "as an infallible prognostic of a west and north-west wind the next day; and on this principle it is that the natives foretell the direction of the wind, by the noise of the surf at night, which, if heard from the northward, is esteemed the forerunner of a northerly wind, and *vice versa*. The quarter from which the noise is heard depends on the course of the land-wind, which brings the sound with it, and drowns it to leeward; the land-wind has a correspondence with the next day's sea-wind, and thus the divination is accounted for." Unless for the periodical refreshing cool breezes from the sea, the West India islands, and generally all hot countries, would scarcely be habitable for the white races of men.

HURRICANES.

The most dangerous winds to the navigator are those which occur in sudden gusts, or squalls, and for the approach of which the sharpest outlook is required. When the squall is in the form of a violent tempest, accompanied by rain, lightning, and thunder, it receives the name of a hurricane. Hurricanes occur most frequently and with the greatest violence in tropical climates, because, in consequence of the very great heat which there prevails, the rarifaction of the air, and also the condensation of the vapour it contains into rain-drops, take place more suddenly and completely than in more temperate regions. By this means the electricity of the atmosphere—that subtle fluid which seems to pervade all bodies, and which universally seeks its own equilibrium—is disturbed, and no longer maintains an equal distribution through the aërial vapour. It accumulates in vast quantities in one mass of vapour or cloud, while in another it is deficient; and, consequently, to regain its equilibrium, it flashes in the form of lightning from the surcharged cloud, to the cloud that is undercharged, or to the earth itself. Hence, hurricanes are always attended with electrical manifestations, which add greatly to the tragical horrors of the spectacle they exhibit. In describing the tremendous hurricane which took place in the West Indies in 1772, the writer observes, "I must still mention how dreadful every thing looked in this horrible and dark night, *there being* so many fiery meteors in the air, which I, *and others who were in* the same situation, were spectators of. Towards the east, the face of the presented to our view a number of fiery rods— cal brushes—which were through the whol shooting and darting in all directions; likew balls, which flew up and down, here and th burst into a number of small pieces, which, like of flaming straw, came very near the road w lay; yet, notwithstanding all these phenomena, and lightning were abundantly great."

Hurricanes commence in various ways: so from a single and small cloud, which sudd pands, overspreading, as with a dense shroud, t heavens; and sometimes from a slowly gather of clouds which appear to be irradiated with elec When the enterprising navigator, Columbus, w to depart from Isabella Island, while his ves still in the harbour, one of these dreadful hu arose. "About mid-day," says Washington "a furious wind sprang up from the east, drivi it dense volumes of cloud and vapour. Enco another tempest from the west, it appeared violent conflict ensued. The clouds were rent sant flashes or rather streams of lightning. At they were piled up high in the sky, at anot descended to the earth, filling the air with darkness more impenetrable than the obscurity night. Wherever the hurricane passed, who of forests were shivered and stripped of thei and branches, and those of gigantic size which the blast, were torn up by the roots, and hur great distance. Groves were torn from the precipices, and vast masses of earth and roc pitated into the valleys with terrific noise, cho course of the rivers. The fearful sounds in the on the earth—the pealing thunder—the vivid l —the howling of the wind—the crash of falli and rocks—filled every one with affright, an thought that the end of the world was at hand. fled to caverns for safety, for their frail hous blown down, and the air was filled with the tru branches of trees, and even with fragments o carried along by the fury of the tempest. W hurricane reached the harbour, it whirled th round as they lay at anchor, snapped their cabl sunk three of them to the bottom, with all w on board. Others were driven about, dashed each other, and tossed mere wrecks upon the s the swelling surges of the sea, which in some rolled for three or four miles upon the land tempest lasted for three hours. When it had away, and the sun again appeared, the Indians re each other with mute dismay. Never, in their m nor in their traditions, had their island been vis such a tremendous storm. They believed that th had sent this fearful ruin to punish the cruelt crimes of the white men, and declared that this had moved the very air, the water, and the ea disturb their tranquil life, and to desolate their i

The West Indies, the Isle of France, and the doms of Siam and China, are the countries wh most subjected to the ravages of hurricanes. West Indies they most frequently occur in the of August, and the Indians, from their expe originally taught our planters the signs by whic approach may be prognosticated. The hurricane either in the first quarter or at the full change moon. If it come on at the full, then at the pre change the sky looks troubled, and the sun mo than usual; besides which, there is a dead calm and the mountain-tops are free from those mists usually overhang them. In the caverns of the and in wells, a hollow rumbling noise, like a r wind, is heard, and animals are observed to t and be much disturbed. Many animals, indeed, to be very sensible of any change in the electrica of the atmosphere, and indicate their uneasin moaning and great restlessness. At night the seem larger than usual, and are frequently surro with halos. It is said, also, that the sea emits a

he sails were filled; and as the ship gathered way, every erson marked the glistening eye of the helmsman, when he felt the spokes of the wheel pressing against his hand, by the action of the water upon the rudder."

THE ARCTIC SEAS.

The seas within the arctic circle, at the north or outh pole, exhibit appearances so very remarkable, in consequence of the intense cold which there prevails, hat they deserve a particular description. The following vivid sketch of scenes observed within the arctic seas, will be read with interest:—

"After the continued action of the sun has at last melted away the great body of ice, a short and dubious nterval of warmth occurs. In the space of a few weeks, only visited by slanting and enfeebled rays, frost again resumes his tremendous sway. It begins to snow n August, and the snow falls to the depth of two or three feet before October. Along the shores and bays, the fresh water, poured from rivulets or drained from the thawing of former collections of snow, becomes quickly converted into solid ice. As the cold augments, the air deposits its moisture, in the form of a fog, which freezes into a fine gossamer netting, or slender icicles, dispersed through the atmosphere, and so extremely minute, that they seem to pierce and excoriate the skin. The hoar-frost settles profusely, in fantastic clusters, on every prominence. The whole surface of the sea steams like a lime-kiln; an appearance, called the *frost-smoke*, caused, as in other instances of the production of vapours, by the waters being still relatively warmer than the incumbent air. At length the dispersion of the mist, and the consequent clearness of the atmosphere, announce that the upper stratum of the sea itself has become cooled to the same standard; a sheet of ice spreads quickly over the smooth expanse, and often gains the thickness of an inch in a single night. The darkness of a prolonged winter now broods impenetrably over the frozen continent, unless the moon chance at times to obtrude her faint rays, which only discover the horrors and wide desolation of the scene." The wretched settlers, covered with a load of bear-skins, remain crowded and immured in their huts, every chink of which they carefully stop against the piercing external cold, and, cowering about the stove or the lamp, they seek to doze away the tedious night. Their slender stock of provisions, though kept in the same apartment, is often frozen so hard as to require to be cut with a hatchet. The whole of the inside of their hut becomes lined with a thick crust of ice; and if they happen for an instant to open a window, the moisture of the confined air is immediately precipitated in the form of a shower of snow. As the frost continues to penetrate deeper, the rocks are heard at a distance to split with loud explosions. The sleep of death seems to wrap up the scene in utter and oblivious ruin. At length the sun reappears above the horizon; but his languid beams rather betray the wide waste than brighten the prospect. By degrees, however, the further progress of the frost is checked. In the month of May, the famished inmates venture to leave their huts, in quest of fish on the margin of the sea. As the sun acquires elevation, his power is greatly increased. The snow gradually wastes away, the ice dissolves apace, and vast fragments of it detached from the cliffs, and undermined beneath, precipitate themselves on the shores with the noise and crash of thunder. The ocean is now unbound, and its icy dome broken up with tremendous rupture. The enormous fields of ice thus set afloat, are, by the violence of winds and currents, again dissevered and dispersed. Sometimes impelled in opposite directions, they approach, and strike with a mutual shock like the crash of worlds—sufficient, if opposed, to reduce to atoms, in a moment, the proudest monuments of human power. It is impossible to picture a situation more awful than that of the poor crew of a whaler, who see their frail bark thus fatally enclosed, expecting immediate and fatal destruction. Before the end of June, the shoals of ice in the arctic seas are

Where the higher part of either of these great billows strikes our coasts, we have the phenomenon of high water; and when the lower touches us, it is low water. Each of the waves is brought over any given place in the circumference of the earth in twenty-four hours, so as to cause high water twice a-day. The sun is also known to have a certain attractive influence on the waters of the ocean, but from the great distance of that luminary, the effect is comparatively small. But when this minor influence of the sun coincides with that of the moon, or acts in the same way, we perceive a marked increase in the tides; on such occasions we have what are called *spring* or *large* tides. When the solar and lunar attractions act in opposition, we have *neap* or small tides. The spring tides happen twice a month, when the moon is at full and change; and the neap when the moon is in the middle of its orbit between those two points. A tide requires six hours to rise, which it does by small impulses or ripplings of the water on the shore, and six hours to ebb or fall; but every successive high water is from twenty to twenty-seven minutes later than the preceding, or, on an average, about fifty minutes for two tides, in consequence of the earth requiring that time above the twenty-four hours to bring any given point again beneath the moon. The tides are thus retarded by the same reason that the moon rises fifty minutes later every day. It is evident that the tides will be greatest at that point of the earth's surface which is nearest to the moon, or where the latter is vertical. She is so between the tropics; and accordingly the tides are there greatest, and they diminish as we approach either poles. It is further to be remarked, that the moon does not anywhere draw up the tides immediately. Three hours elapse before the waters are raised, in consequence of the law of inertia, or a disposition which every body has to continue in the condition of rest or motion in which it happens to be placed. This stubbornness to resist the moon's influence is only overcome by a three hours' action upon the waters; and thus the tidal wave is always three hours behind the moon in its passage. Twice a-year, namely, in March and September, the tides are higher than at other times, because then the attraction of the sun and moon are strongest. In some of the firths or arms of the sea on the east coast of Scotland, it has been occasionally noticed that there have been four high waters in the twenty-four hours. These, however, are not simple tides. The double risings are caused by the irregular passage of the tidal wave from the Atlantic round the north and south points of the island of Great Britain. When that portion of the wave which proceeds by the south reaches the east coast sooner than that by the north, or vice versa, there will be two risings of the water instead of one. A similar phenomenon may perhaps be observed in other parts of the earth. In the Mediterranean Sea the tides are small, and in some places scarcely perceptible; this is caused by the general confinement of that inland branch of the ocean by the Straits of Gibraltar, which prevent the full action of the tidal wave either in its rising or recession.

CURRENTS.

Besides being affected by the regular motion of the tides, the ocean, in many parts of its extended bounds, is influenced by currents, which act continually in particular directions. Currents are the result of various causes, such as temperature, winds, peculiar construction of coasts and inlets, but chiefly, as is believed, of the rotary motion of the earth. The globe in its diurnal motion leaves, as it were, the fluid behind; and hence there is a perpetual flow of the sea from the western coasts of Europe and Africa towards the eastern *landboard*, as it is called, of America, and from the west of America to the eastern coast of Asia. This movement is chiefly confined to the tropics, unless where the sea is turned aside by the land, and caused to diverge towards the north or south. If we start in a survey of this motion from the western coast of America, we find it producing a constant current across the vast e of the Pacific, till it is turned off by Asia and Au A great division of its force is directed throu seas on both sides of the latter continent, and through the Indian Ocean, and round the Cape o Hope, till it reaches the free expanse of the A across which it proceeds in the same manner as the Pacific. The current of the Atlantic stri coast of Brazil, and breaks at Cape St Augusti two divisions, one of which proceeds round Cap into the Pacific, while the other advances t the Caribbean Sea, and so on into the Gulf of This latter branch conspires, with the vast i fresh waters which pours into the Gulf of Me raise the level of that sea above that of the neig ing ocean, and, causing the surplus to force its between Florida and Cuba, produces the cel Gulf Stream, which is perhaps the most power current in the world.

It is obvious, that to the mariner current be of great importance. From Portugal, for in ships have sailed to the Bights of Benin, Guinea coast, being 150 leagues, in two days, they could not return in less than seven weeks also common for vessels to descend to the lati the Canary Islands, in order to get into the current across the Atlantic, which carries t America in a comparatively short time: it was current that Columbus was carried so smoothl his first voyage to the new continent. The Pa is said, can be crossed in this way in about ten being at the rate of 1000 miles per week; an mariners have expressed an opinion that China be reached by this route in less time than by the course round the Cape of Good Hope.

For the same reason that the sea flows from west, the air has a tendency, when not count by other causes, to move in the same direction earth in its motion leaves the air, like the sea, behind it; in other words, does not carry it so f ward: hence what are called the trade-winds, operating in the same direction with the sea-cu increase the facility of navigation to the westwa very great degree. It is impossible to avoid r ing, that these natural phenomena, which, it i supposed, might have been counteracted or r lised from the beginning, must have been desig some end useful and necessary in the economy world. Perhaps, like the diffusive powers give seeds of certain plants, they were intended to aid dispersion of the human race over the globe. It known that population exists in many places, appear cut off from all connection with others, that must have been impassable by navigators early ages of their art. Men could only be dri such places in early ages by the currents of and air; and thus the cultivation of large and im regions must have commenced much earlier than have otherwise been the case.

Besides the grand equatorial or tropical c there is one of a less decided character from th to the equator. The sea under the tropics eva to a greater extent than elsewhere, by the influ a vertical sun. The vapours are apt to proceed t the north and south, where they descend in ra surplus of water is thus produced in the high la which naturally flows back towards the equator. a constant but comparatively slight flow from th and south towards that warmer region of the Under the influence of this stream, large masse are constantly becoming detached from the polar and drifted to the tropics. In some of the bays north side of Iceland, this frigid substance co vast quantities, insomuch as to choke them up depth of 500 feet. What is still more strange, masses of ice are sometimes mixed up with trees of which are known to be the produce of the zone in America: this is accounted for by the ac the northern division of the great current which

ARITIME DISCOVERY—NAVIGATION.

vigation is the art of conducting vessels at sea in irection in which they are designed to proceed; rm is derived from the Latin words *navis*, a ship, go, to manage or govern. From *navis* also is d the term *navy*, which signifies a collection of The terms *marine*, *maritime*, and *mariner*, are se from a Latin root, to wit, *mare*, the sea.

the early history of ship architecture and naviga- little can be said of any importance. The buoyant rty of water, particularly that of the sea, must have oon observed by mankind, and therefore beginning ude skiffs and canoes, they would in time acquire ent experience and skill to construct vessels of a r size, and to guide them in the required direction ans of a rudder and sails. The cultivated nations tiquity, Egyptians, Carthaginians, Phœnicians, thers, living on the shores of the Mediterranean, ed ships both for commerce and war, some of were of a large size, and moved by rowers, and acting on the sails. But no people of antiquity ssed the courage or skill to navigate their vessels sight of land, or, at least, to push into the open At- or other great oceans. Maritime intercourse, for ke of traffic, was carried on only along the shores Mediterranean, or down the Red Sea, and along ast to India, or along the western shore of Europe itain. The Romans thought they performed a rfully bold feat when they sailed a ship as far as rthern islands of Scotland. In those times there o other known guide, with respect to the cardinal , than the stars by night and the sun by day; herefore, when clouds covered the visible horizon, m total darkness ensued at night, the ship was arily brought to a pause, or placed in the most nent danger of being wrecked on some unknown . This, however, was not the only difficulty. The s of antiquity, with all their learning, were utterly ant of the form and size of the globe. They believed he world was a great flat plain, with the habitable placed in the midst of the ocean; that this ocean f interminable breadth; and that, at a certain ce from land, the waters were shrouded in eternal ess. With such notions prevailing among mankind ousands of years, it is not surprising that they l have made so slow advances in the art of navi- , or done so little for maritime discovery.

ring the middle ages (fourth to the fourteenth ry), ship-building was considerably improved by talians, who then conducted a large maritime on the Mediterranean; but the art of navigation, proper sense of the term, was still in its infancy, s history cannot be said to commence till the ning of the fourteenth century, when that wonder- strument, the mariner's compass, was discovered, ne first into observation in Europe. Of the polarity magnet, or its tendency to point to the poles, a ent explanation will be given in the article Elec- y and Magnetism; and it is here only neces- o describe how this polarity is rendered subser- to the purposes of the navigator. The mariner's ss, which consists of a magnetised slip of metal, dle, as it is called, poised on its centre, and free to to the poles, was first made known, as far as it can ertained, by one Flavio Gioja, an Italian, in the 302. As with all great discoveries, its advantages not at once recognised—it had to contend against ety of prejudices; but these in time vanished, and the middle of the fourteenth century its impor- ses were allowed and established.

vigation now assumed a much bolder character formerly. The English, Portuguese, Italians, and ards, pushed their vessels into districts of ocean previously traversed, and thus the way was fairly d for maritime discovery. The first great dis- er who made use of the compass, and partly ved its construction, was Prince Henry, a son of

the King of Portugal, and who is known in history by the name of *Henry the Navigator*. This intelligent and enterprising prince (born 1394, died 1461), with the concurrence of the Portuguese government, set on foot a series of maritime enterprises, with the view of discovering a route to India by way of the Atlantic. These voyages ultimately proved successful; the islands of Puerto Santo, Madeira, and the Canaries, were successively discovered, and annexed to the crown of Portugal. In 1433, the Portuguese navigators penetrated beyond Cape Bojador, on the coast of Africa, which was considered an extraordinary performance; another expedition afterwards went as far as Cape Blanco, and discovered the Island of Arguin and the Cape de Verde Isles; and in 1448, the Azores were reached and made known. Henry the Navigator thus struck a spark which kindled to a flame all over Europe. Not long after his death, the Guinea coast was added to the Portuguese discoveries. In 1484, the Congo was reached by Diego Cam; in 1487, the Cape of Good Hope was doubled by Bartholomew Diaz; and in 1498, Vasco de Gama touched the shores of Hindostan. The Portuguese having received an assignment from the pope of all lands that could be discovered on the African coasts, the Spanish government, burning with anxiety to emulate the late proceedings of its neighbours, was compelled to seek out new countries in a different direction. Ferdinand and Isabella, the sovereigns of Spain, listened, therefore, to the speculations of Columbus regarding a route to India across the Atlantic, and sent him off on a mission. In this his bold attempt to reach Hindostan by pursuing a direction across the Atlantic, he landed on one of the American islands, now called the Bahamas, on the 12th of October 1492. About the year 1499, Amerigo Vespuccii, under an appointment from the Spanish government, discovered the coast of the South American continent, and hence the name of *America* was given to the New World, although, as is well known, Columbus had previously discovered and landed on South America, without being aware that it was the continent which he had reached.

Several subsequent voyages by Spanish navigators disclosed the extent of the east coast of South America, and in 1513, Nunez de Balboa crossed the isthmus of Panama with an exploring party of his sailors, and made the discovery of the Pacific Ocean on the west coast of that continent. It was now seen that America was not, as had been at first believed, a portion of Asia or India, but was a separate territory of vast extent lying between the Atlantic and Pacific. There was yet a doubt with respect to the southern extremity of America, but in 1520, Magellan made the passage from the Atlantic to the Pacific by the straits which separate America from the island of Terra del Fuego, at about the 53d degree of south latitude, and so removed all doubt upon the subject. This navigator extended his voyage across the Pacific to the Philippine islands, where, unfortunately, he was killed; but his companions proceeded in the route homewards by the Cape of Good Hope, and thus, by circumnavigating the globe, settled the long-disputed problem with respect to the sphericity of our planet. This most important voyage was made between the years 1520 and 1523.

In the meanwhile, several maritime discoveries were made by the English nation. In 1495, John Cabot, a Venetian pilot, settled at Bristol, obtained from Henry VII. letters patent, empowering him and his three sons, Lewis, Sebastian, and Sanctius, to discover unknown lands, and conquer and settle them. In consequence of this permission, the king supplied one ship, and the merchants of London and Bristol a few smaller ones, and in 1496, John and Sebastian sailed to the north-west. In July of the same year, they discovered Newfoundland, and explored it up to latitude 67°. In a subsequent voyage, the father and son sailed as far as Cape *Florida, and are believed* to have been the first who *saw the mainland of America*. By these and succeeding *voyages of discovery* in the reigns of Henry VIII., *Edward VI., and Elizabeth*, the English became possessed of the eastern coast of North America, and of its islands. Between the years 1740 and 1744, A was employed in circumnavigating the globe, and ing different parts of the Pacific, but this extensiv protracted voyage added little to the existing know of geography. At a later period, in the reign of G III., Cook explored the groups of islands in the P making various interesting discoveries, in whic included a survey of the eastern coasts of Austral Van Dieman's Land, also a visit to the New Z islands. After the voyages of this enterprising gator, little was left to perform in the way of ma discovery, except in exploring the northern extre of the American continent. A series of voyag this purpose was begun in 1818, conducted by Parry, and others, and which lately terminated h blishing the fact, that a passage for ships exists be the Atlantic and Pacific, round the northern pr tories of America, but that, from the blocking such a passage can only on rare occasions be o navigators, and is therefore of no practical value.

INSTRUMENTS OF NAVIGATION.

The great maritime discoveries made in the of the fifteenth century, which at once opened new view of the globe, led to various improveme navigation. The *log*, for measuring the ship's pro also charts on Mercator's projection, were introd In 1614, Napier discovered the calculation of num quantities by logarithms; and about the year Gunter invented a scale, by the help of which, pair of compasses, every question in trigonometry easily be calculated by the mariner. In 1731, t of navigation was greatly advanced by the inve or rather improvement, by Hadley, of the qua an instrument for ascertaining, by an observation sun, the true latitude of a ship at sea. Till nearl period, an instrument called an *astrolabe*, a spec sun ring, had been employed for this purpose, an very imperfect in its operation. Between the 1765 and 1774, Harrison invented a chronomete time measurer, by which the longitude could be a tained at sea with nearly perfect accuracy; and the art of navigation may be said to have been pleted. In the course of the eighteenth century true figure of the earth was fully made known b voyages of Anson, Cook, and others; and, at the time, discoveries were made of almost every acce island and tract of land over the globe. Thus, i short space of four centuries from the time whe first impulse was given by the Portuguese, the civ part of mankind had acquired a nearly complete k ledge of the features of our globe, as well as of its figure and dimensions.

THE COMPASS.

The most important instrument for the guidan the mariner is the compass. There are different of compasses, to suit peculiar purposes; but that w is commonly in use on shipboard is of the follo construction. The most essential part is a magne bar of steel, called the needle, which is supported zontally on a central pivot, round which it is free to and to point in any direction. The pivot of the n rises from a circular *card*, resembling the dial-pl

d allow it to haul in easily. Then, having gathered sufficient quantity of line into his hand, he throws it r to leeward, that it may not be affected by the eddies ich follow in the wake. The stray line, which allows e chip to get astern, now runs off, and the instant at the white rag, which marks its termination, passes rough the hand of the officer, he cries, "Turn!" and ntinues to veer out line until the glass runs out, and e person holding it cries "Stop!" Then the line is asped, and the number of knots that have passed off ark the speed of the ship. When this exceeds five ots, it is usual to use a glass of 15 instead of 30", unting the knots double. The rate of sailing, per ur, multiplied by the hours sailed, thus gives the ariner the measure of his run.

In addition to these essential instruments for directg the course and ascertaining the distance, the navitor must be provided with octants of double reflection, measure the altitude of the heavenly bodies, and a rcle, or sextant, more nicely graduated, to measure stances between the moon and stars. He should also ve with him a book containing the logarithms of mbers, sines, tangents, and secants, to facilitate trinometrical calculations; tables for correcting altides for dip, parallax, and refraction; also lists of titudes and longitudes for every part of the world; d of time of high water at every port, at the period full and change of the moon, from which, at all times, be able to find the tide; and a variety of tables, to cilitate the various problems of navigation. He should so have with him the Nautical Almanack, containg the places and declinations of the fixed stars and anets, and especially the distances of the moon from e sun and other stars, and all that relates to that ly, with a view to calculate the longitude by observation. Finally, he must be provided with the general d local charts applicable to his contemplated voyage. hus furnished, the mariner may set sail with confince; many do so with no other aids than their mpass, log, quadrant, a single chart, and book of vigation, and arrive in safety. But it is less our siness to show with how little care a ship may be vigated, than to show how she may be carried from rt to port with the greatest possible certainty. Havg taken leave of the port, and, when the last land is out to disappear from view, either from the growing stance or the intervention of night, the mariner selects me conspicuous headland, of which the latitude and ngitude are noted in his tables, and, placing a comss in some elevated position, remote from any iron ject to disturb its polarity, proceeds to determine its aring, and estimate his distance from it, either by e progress made from it, or by the ready estimate of practised eye. Or, taking the simultaneous bearings two distinct points of coast, he has still surer data r deducing his position. This is called *taking the eparture*, and is carefully noted on the log-slate, with e time of making the observation. Thenceforth the g is thrown every hour, and the course and distance re entered upon the slate, to be copied into the logook at the end of the day. The first thing which the vigator attends to, after making the offing which rudence dictates to clear the dangers of the land, is to hape his course for the port of his destination. And rst he searches in the chart if there be any point of nd, island, or rock, intervening in his way. If there e, the course is primarily shaped with reference to the anger; if not, the differences of latitude and longitude etween the two places being taken, the course and istance are obtained by the aid of trigonometry. The hortest distance between any two places on the surface f our sphere, is the arc of a great circle passing through hose two places. Thus, between Cape Henry, in latiude 37°, and the Island of St Mary in the same latitude, ut 50° longitude farther east, the distance is 30 miles ss in sailing on a great circle, than if you were to sail lue east on a parallel of latitude, and consequently on lesser circle of the sphere. In a higher latitude, the difference between sailing on a great or small circle

The extraordinary part which *animals* play in colouring the ocean, may be demonstrated by alluding to the vast tracts of the northern sea, which among mariners are familiarly known as *green water*, and which do not, under any circumstances, assume a blue tint. Mr Scoresby thus describes them:—"After a long run through water of the common blue colour, the sea became green and less transparent. The colour was nearly grass-green, with a shade of black. Sometimes the transition between the green and blue water is progressive, passing through the intermediate shades in the space of ten or twelve miles; at others, it is so sudden that the line of separation is seen like the ripple of a current, and the two qualities of water keep apparently as distinct as the waters of a large muddy river on first entering the sea. In 1817, I fell in with such narrow stripes of various coloured water, that we passed streams of pale green, olive green, and transparent blue, in the course of ten minutes' sailing."* These green regions extend for tens of thousands of miles, and it has been distinctly proved that the peculiar colour is produced by inconceivable multitudes of microscopic animals, principally minute sea blubber, *medusæ*, and *infusoria*. Some of these animals are green, and directly produce the colour which is exhibited, but many more are yellow, which colour, combining with the blue of the sea water, will also, as every one knows, produce a green tint.

Other appearances, proceeding from a similar cause, and, if possible, still more striking, are also witnessed. Thus, a *red colour*, sometimes characterised as blood or carmine red, frequently astonishes the voyager. The water of the Gulf of California in the Northern Pacific is reddish, whence it is sometimes named the Vermilion Sea.† Captain Colnet, in the interesting account of his voyage, states—"That the set of the currents on the coasts of Chili may at all times be discovered by noticing the direction of the beds of small blubber with which the coast abounds, and from which the water derives a colour like that of blood. I have often been engaged," he adds, "for a whole day in passing through various sets of them." The celebrated naturalist D'Orbigny makes similar remarks concerning the waters of the Atlantic. "There are immense tracts," says he, "off the coasts of Brazil, filled with small animals so numerous as to impart a red colour to the sea; large portions are thus highly coloured, and receive from the sailors the name of the Brazil Bank. This bank extends over a great part of the coast of that country, keeping at nearly the same distance from the shore. Another bank of the same sort occurs near Cape Horn, in latitude 57 degrees. Captain Cook, in his third voyage, encountered the same appearances, and states, "that on examination the phenomenon was found to proceed from an infinity of little animals which, when viewed by the microscope, had the shape of cray fish of a red colour." Hence we are not to wonder, that, according to an intelligent mariner, "the southern seas sometimes presented an appearance which terrified their early navigators, who, seeing large spaces of the sea of a blood-red colour, conceived it a portent of some dreadful catastrophe." These singular appearances are not, however, confined to southern regions. At all events, Mr Scoresby narrates, that he noticed in his last voyage, in 1823, some insulated patches of *reddish-brown* water, which were found to be occasioned by animalculæ; and often, too, were the icebergs and snows tinged with an *orange-yellow* stain. "The animal," he adds, "which gives this peculiar colour to the sea, is about the size of a pin's head, transparent, and marked with twelve distinct patches of a brownish colour." The same appearances have not unfrequently been noticed in fresh water; and, under the name of *blood-rain*, have sometimes caused no small alarm over wide districts. We must not on this occasion attempt to account for all these appearances, but may note, that M. Ehrenberg, in the steppes of Siberia, examined some of these waters. "In a fen," he remarks, "with a pool of water, th red blood colour was very striking, even at a d This colour, I found on examination, was con the slimy surface, which in different places fo shining skin. The red colour was darkest up t of the marsh. M. Chantran, in the year 1797, ex in France a pond which exhibited the same appea the water being of a brilliant red colour, with between cinnaber and carmine; as did Weber many, near Halle, in 1790. In all these latter in the colour was produced by infusory animals. *white* is another colour which is not unfrequent tioned. Thus Captain Tuckey states, that, ne Palmas, upon the coast of Guinea, his vessel a to move in milk, which circumstance arose fr multitude of animals upon the surface which ol the natural colour of the liquid. And once m existence of a *yellow-coloured* sea from the sam is satisfactorily established. "In approaching th point of America," says Captain Colnet, "we th noon passed several fields of spawn, which cau water to bear the appearance of barley, cover surface of a bank."

These causes of varied colour in the ocean, h striking in themselves, are not likely to misle one as to the inherent colour of its waters. It rent, however, with the class of causes to which proceed, and which we may arrange under the *the reflection of coloured rays* from the *bed or be the sea*. Sometimes, indeed, though rarely, th pearances are quite as singular as any we have considered. Thus, in the Bay of Loango, the are almost always of a deep red colour; so m that they are said to be mixed with blood, and Tuckey satisfied himself that the bottom is in red. Let us substitute for this bright red bott of the same shade, but obscure and slightly re and the water of the Bay of Loango would then of an *orange-yellow* colour. Far more frequentl ever, the bed of the sea is of a yellow rather tha hue; and if this colour is at all bright and stro slight blue of the pure water will scarcely affect then the waters will appear *yellow*—a tint whic be observed, is in fact by no means uncommon o sea-shores. But *bright yellow* is by no means mon a tint of sea-sand as is *dull* or *obscure yello* this, owing both to its own proper colour, and its being obscured by a great mass of superi water. When the yellow hue is thus reduced, th ray reflected from the bottom, mixing with the p of the ocean, produces, as is universally known, tint, which is communicated to the water; and one of the most widely spread modifying ca change in the proper colour of the sea.

But the most difficult part of the problem s mains; and that is, to account for the green co the ocean in those places where it is hundre thousands of fathoms deep, and where, of course, thing like reflection from the bottom is quite out question. M. Arago, to account for the phen occurring under such circumstances, offers a which resolves itself into the principle, that wh surface is troubled, the luminous rays, coming fr waves to the eye, consist more of *transmitted* ra of *reflected* rays, and therefore are green. Ac to this view, the appearances exhibit themselv during a breeze which disturbs the surface, the midst of a swell, so common over the ocean. observer stands upon the deck of the vessel, the often overtopping the level of the ship; the lu rays which reach the eye from the sea must have from the distant horizon through one or more watery ridges; thus the transmitted rays have minated over the reflected ones, and so, accord the allowed fact, must be green.

WINDS—TRADE-WINDS.

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* Arctic Regions. † Tuckey, i. 24.

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becomes more considerable, as the small circles grow smaller; thus, in the latitude of 60°, a distance equal to that between Cape Henry and St Mary would offer a disparity of nearly 200 miles. But as it is only in sailing on the equator, or on a meridian, that the compass points us uniformly along a great circle of the sphere, in most cases it would be necessary to change the course at short intervals, in order to attain even an approximation towards this desideratum.

WORKING A RECKONING.

At the first noon succeeding the time of taking his departure, the mariner works up his reckoning. Noon is an epoch fixed by nature, being determined by the passage of the sun over the meridian, and is therefore well chosen as the beginning of the day. The log-slate being marked, he copies the courses and distances, if from head-winds or other cause they have been various; the departure from the land is also converted into a course; as is also the current, if there be any known one. He next proceeds to find the difference of latitude and departure from the meridian corresponding to each course, either by geometrical calculation, or, more expeditiously, by reference to tables; then he adds the several differences of latitude and departure, and, if they be of different names, as some north and some south, some east and others west, deducts the less from the greater. With the remaining difference of latitude and departure, he not only finds the course and distance made good, but also the latitude and longitude in; the difference of latitude being applied to the latitude left, by adding or subtracting, in sailing from or towards the equator, at once gives the latitude of the ship. But before the departure can be thus applied to find the longitude, it is necessary to reduce it for the converging of the meridians towards the poles; for, though all degrees of longitude are divided, like those of latitude, into 60 minutes or miles, yet they decrease in length, from being equal to a degree of latitude at the equator, until they become nothing at the poles. There are many ways, more or less accurate, of deducing the difference of longitude from the departure, the latitude being known; they are founded upon this principle: the circumference of the earth at the equator is to its circumference at any given parallel of latitude, as the departure is to the difference of longitude. The most easy and correct way of obtaining the difference of longitude, on an oblique course, is by the aid of a table of meridional parts; for, having taken out the meridional difference of latitude, the mariner has this simple proportion: the proper difference of latitude is to the meridional difference of latitude, as the departure to the difference of longitude. The difference of longitude thus obtained, is applied to the longitude left, adding or subtracting, in sailing to or from the first meridian, and the result will be the ship's longitude; which, with the latitude previously ascertained, determines her position on the chart. The method of navigating thus described is called *dead reckoning*. It is far from infallible, and leaves much to desire. It will, indeed, do pretty well in short runs; but as errors daily creep in from many causes escaping calculation, such as bad steerage, leeway, heave of the sea, unknown currents, and as these accumulate, and become considerable at the end of a long voyage, it becomes necessary for the mariner, removed from all reference to terrestrial objects, to resort to the immoveable guides in the heavens, whose motions the God that placed them there has given him capacity to comprehend. Let us now see how the ship's position on the ocean, represented by latitude and longitude, may at any time, without reference to course sailed, or distance, to capricious winds and stealthy currents, be ascertained with ease and accuracy. And, in the first place, to find the latitude, we have abundant data. All the heavenly bodies are, by the revolution of the earth, daily brought to the meridian, at which time, if their altitude be measured, *their declination* or distance from the equinox being *known, the latitude* is readily deduced; it may also be deduced from single or double altitudes of bodies not in the meridian, the times being accurately known. But the meridian altitude of the sun is what furnishes at once the easiest and most correct method of finding the latitude. The meridian altitudes of the stars, and frequently of the moon, must be taken at night, when the horizon is vaguely marked; moreover, their minuteness and want of brilliancy make observation troublesome and uncertain; but when the sun comes to the meridian, the observer brings a brilliant and palpable object down to a well-defined horizon; then, too, he has the advantage of observing, at a half-fixed epoch, the beginning of a new day. So great, indeed, are the advantages offered by the meridian altitude of the sun, that no other means of finding the latitude are used, except when these have failed from a clouded atmosphere, or when the momentary expectation of making the land quickens the mariner's anxiety. We shall, therefore, now explain the method of deducing the latitude from the sun's meridian altitude.

TAKING AN OBSERVATION.

Furnished with a sextant, circle, or octant of reflection, the observer goes upon deck, and, having examined the adjustment of his instrument, proceeds to bring down the image of the sun reflected by its mirror, until the lower limb just sweeps the horizon. He continues to follow and measure its ascent, until it ceases to rise; the moment that it begins to fall, and the lower limb dips in the horizon, the sun has passed the meridian. The altitude marked by the index being read off, it is next corrected. And first, the observer adds the semi-diameter, in order to make the altitude apply to the centre of the object; next, he subtracts the dip, to meet the error caused by the extension of the horizon, in consequence of the rotundity of the earth, and the elevation of his eye above its surface; also the refraction of the atmosphere, by which the object, when not vertical, is made to appear higher than its true place; lastly, he adds the parallax (a small correction, inconsiderable from the sun's distance), in order to reduce the calculation for the centre of the earth; from which point all calculations are made, and which is ever supposed to be the station of an observer. Having made all these corrections, which many mariners dispatch summarily, by an addition of 12 minutes, he has the true meridian altitude of the sun. Taking this from a quadrant, or 90°, gives its zenith distance, or distance from that point in the heavens which is immediately over the observer, and would be met by a straight line passing from the centre of the earth through his position. Now, if the sun were for ever on the equinoctial, the zenith distance would always be the latitude; for, whilst the zenith is the observer's position, referred to the heavens, the equator is there, in like manner, represented by the equinoctial; and we have already seen that latitude is the distance from the equator. But as the sun is only twice a-year upon the equinoctial, and as his distance from it at times increases to more than 20°, it becomes necessary to take this distance (called his *declination*) into the estimate. The sun's declination is given in the Almanack, for the noon of each day; by correcting it for the time anticipated or elapsed, according as the sun comes first to him or to the first meridian, by his position east or west of east of it, the observer obtains the declination for noon at his own position. This declination applied to the zenith distance, by adding when the sun is on the same side of the equator, by subtracting when on the opposite side, gives the true latitude. A daily and accurate knowledge of his latitude is, then, to the mariner of our day, a desideratum of easy attainment. By its aid, nothing is easier than to sail clear of any rock or shoal that crosses his track, either by a watchful look-out at the moment of passing its latitude, or else by avoiding its parallel entirely, until it be surely passed. Moreover, this is his best and surest guide in aiming at his destined port; for he has but to attain the exact latitude it lies in, and then sail directly upon it, east or

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it is of less importance to have sharp bows to cleave the water, than to have a *fine run* or gradual taper from bows to stern. Of this peculiarity of construction we shall hereafter speak in the article SHIPS; our object at present is chiefly to notice the principle of resistance in relation to the speed. According to the laws of liquids, *the resistance presented by the water increases as the square of the speed*, that is, the resistance is four times greater with only a double rate of speed. This law of fluid action is simply and beautifully explained by Dr Arnot. "A boat which moves one mile per hour, displaces a certain quantity of water, and with a certain velocity; if it move twice as fast, it of course displaces twice as many particles in the same time, and requires to be moved by twice the force on that account; but it also displaces every particle with a double velocity, and requires another doubling of the power on this account: the power thus being doubled on two accounts, becomes a power of four. In the same manner, with a speed of three, three times as many particles are moved, and each particle with three times the velocity; therefore, to overcome the resistance, a force of nine is wanted; for a speed of four, a power of sixteen; for a speed of five, a power of twenty-five, and so forth. Thus, even if the resistance at the bow [fore part] of a vessel were all that had to be considered, the force of 100 horses would only drag the vessel ten times as fast as the force of one horse. But there is another important element in the calculation, namely, the lessening, as the speed quickens, of the usual water pressure on the stern [hind part], which pressure, while she is at rest, is equal to the pressure on the bow; and the force, therefore, required to produce an increased velocity is still considerably greater than that noted. There is not a more important truth in physics than the law of fluid resistance to moving bodies, here treated of; it explains so many phenomena of nature, and becomes a guide in so many matters of art.

We shall now (continues the Doctor) set forth some interesting examples. It explains at what a heavy expense of coal high velocities are obtained in steam-boats. If an engine of about 50 horse power would drive a boat 7 miles an hour, two engines of 50, or one of 100, would be required to drive it 10 miles, and three such to drive it 12 miles; even supposing the increased resistance at the bow, as already stated, to be the measure of the whole work done, which it is not, and that engines work to the same advantage with a high velocity as with a low, which they do not. For the same reasons, if all the coal which a ship could conveniently carry were just sufficient to drive her 1000 miles, at the rate of 12 miles per hour, it would drive her much more than 3000 at a rate of 7 miles per hour; and much more than 6000 at a rate of 5 miles per hour. This is a very important consideration for persons concerned in steam navigation to distant parts.

The same law shows the folly of putting very large sails on a ship; the trifling advantage in point of speed by no means compensating for the additional expense of making and working the sails, and the risk of accidents in bad weather. The ships of the prudent Chinese have not, for the same tonnage, one-third so much sail as those of Europeans, and yet they move but a little slower on that account. A European ship under jury-masts does not lose so much of her usual speed as most people would expect.

This law explains also why a ship glides through the water 1 or 2 miles an hour when there is very little wind, although with a strong breeze she would only sail at the rate of 8 or 10 miles. Less than the 100th part of that force of wind which drives her 10 miles an hour, will drive her 1 mile per hour, and less than the 400th part will drive her half a mile. Thus, also, during a calm, a few men pulling in a boat can move a large ship at a sensible rate.

These considerations show strikingly of what importance to navigation it might be to have, as a part of a *ship's* ordinary equipment, one or two water-wheels, to *be affixed upon the ship's side when required*, like the paddle-wheels of a steam-boat, and by turning [illegible] crew might deliver themselves from the tedium [illegible] disastrous consequences, of a long calm at sea.

The impulse which a vessel at sea receives [illegible] wind, is generally of greater value when given [illegible] degree sideways, than when direct on the [illegible] least it is so when there are several masts. The reason of this is very obvious: when the [illegible] directly astern, it can only affect one or [illegible] sails with any commensurate force; but when [illegible] slantingly on the vessel in the direction of [illegible] every sail in the ship may be trimmed to [illegible] breeze, and so all receiving an equally powerful [illegible] a corresponding effect is produced. It is [illegible] prime arts in seamanship so to trim or arrange [illegible] sails of a vessel, as to take advantage of a wind [illegible] is almost right ahead. This is called sailing close [illegible] wind. Some vessels, by tacking, or sailing in a zigzag [illegible] direction, can be made to proceed within a few [illegible] points of the wind, and thus are always gaining [illegible] little in their course, while others, less [illegible] rigged and managed, would be compelled to [illegible] stop. Dr Arnot suggests a method by which [illegible] might be made to steer, that is, guide, [illegible] through the ocean, particularly in cases of [illegible]

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DOMINION OF THE SEAS.

It is a common law of nations that the ocean [illegible] and universal highway, which no state can ap[illegible] to its own especial use. While this exists a [illegible] ciple generally recognised by all civilised powe[illegible] Britain has for a considerable period of time [illegible] *the dominion of the seas*, as a right acquire[illegible] extensive conquests, and the skill and valo[illegible] seamen. By this claim, it is not assumed th[illegible] Britain possesses a legal right of property in th[illegible] of the ocean, or the lands which they may cov[illegible] claim resolves itself into what is termed [illegible] military sovereignty," which it would be ex[illegible] difficult to define, and is practically an empty [illegible] glorious boast. Within the last twenty years [illegible] which a large maritime force has grown up in [illegible] Russia, and the United States of America, the [illegible] the British to the dominion of the seas has b[illegible] heard of, and is perhaps now a dead letter in [illegible] law, as it is in fact. Each nation retains a [illegible] control over its vessels and their crews, in [illegible] part of the ocean they may be; all crimes and [illegible] meanours committed on board of a ship are ju[illegible] by law, as soon as the vessel reaches the co[illegible] which it belongs.

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ALE FISHERIES.

pecies, in the first instance, much repetition may
tely be spared.
size of the common whale was the subject of
exaggerated notions until within a very recent
l. About fifty years ago, a standard writer in
al history asserted that whales were frequently
e seen above an hundred and sixty feet long;
nt, even at this standard, the animal was much
r than it had been before man began to disturb
estroy the race. That whales "two hundred and
et in length" were often seen previously, is re-
ated as a thing beyond all question. Mr Scoresby,
er, a very high authority on the subject, declares
he common whale seldom or never exceeds seventy
length, and is much more frequently under sixty.
f three hundred and twenty-two whales which he
ersonally aided in capturing, *not one* exceeded
ight feet; and the largest ever taken, of which he
the reported measurement to be authentic, came
ly to sixty-seven feet. The body of a large indi-
of this family measures from thirty to forty feet
the body at the thickest point, or a short way
the head, which is of great proportionate size,
ecupies about one-third of the whole extent from
to tail. When the mouth is open, it is sufficiently
and long to admit a whaler's jolly-boat with its
mplement of men. The bulk of the head, which
newhat conical in form, and has a sort of round
nce above and posteriorly, renders the aspect of
ysticetus clumsy and unshapely. A very slight
ution of the circumference indicates the position
neck, and behind this the body swells to its
est calibre, whence it tapers sharply away again
ds the tail. The animal has no back or dorsal
The two side or pectoral fins are placed about two
ehind the angles of the mouth, and are nearly five
road by nine feet in length. The tail is something
shape of a crescent, with an indentation in the
e of the concavity, the convex side being raised

to the body. This appendage is placed horizontally, and is about twenty-four feet broad. It is an instrument of immense power, and the whale has sometimes given a stroke with it which has sent large boats high into the air in a thousand splinters. The colour of the body is mainly a velvety black; the under part of the head and abdomen, and the junction of the tail, being partly white and partly of a freckled grey. In old whales, much more of the body assumes the latter tint, and the streaks sometimes resemble a beautiful landscape of trees. On the tail, in one instance noticed by Ray, nature, in a freakish mood, had set down the number 122, in large and very distinct characters. The eyes of the whale are about a foot behind the angle of the mouth, and are not much larger than those of the ox. The iris is of a white colour, and the organs are guarded by lids and lashes as in quadrupeds. The two blow-holes of the whale, situated on the summit of the head, and descending perpendicularly through it for a length of twelve inches or so into the top of the windpipe, are the only other features worthy of notice in the exterior aspect of the Greenland whale.

The mouth of the common whale is an organ of very wonderful construction. In a large specimen of the race, it may measure, when fully opened, about sixteen feet long, twelve feet high, and ten feet wide—an apartment, in truth, of very goodly dimensions. It contains no teeth, and enormous as the bulk of the creature is, its throat is so narrow that it would choke upon a morsel fitted for the deglutition of an ox. An inch and a half is stated to be the diameter of the gullet in the very largest whales. From this peculiarity of formation, it may be anticipated that the food of the animal is of a very minute nature, notwithstanding the vastness of the cavity which is prepared for its primary reception. The animal is indeed supported upon a multitude of smaller inhabitants of the deep, and, to permit this, its mouth is provided with a remarkable apparatus, composed of what is called the *baleen*, or the well known *whalebone* of commerce. The baleen is arranged in two rows of laminæ or thin plates, projecting laterally from a line in the centre of the arch of the palate, somewhat like the laminæ of a feather. Towards the point of origin, they are comparatively few in number and strong, while towards the lips they divide and taper away into mere bristles, forming a loose hanging fringe or border. There are about three hundred of these plates on each side, and, when dried, they weigh usually above a ton. In the rorqual whale they are more numerous, and we find from the description, given by Mr Frederick J. Knox, of the skeleton prepared and exhibited at Edinburgh, that three hundred and fourteen external plates were counted on each side in the mouth of that animal. The whole number of plates which *could* be counted, not including the more minute bristly terminations, was 3768. The longest plate of baleen, which is always placed about the centre of the series on each side, measured two feet two inches in length by fifteen inches in breadth. "The substance when recent (says Mr Knox) is highly elastic."

The use of these plates, with their pendulous extremities and fringes, is to retain, as in a net, the multitude of small animals which are floated into the mouth of the whale whenever it is opened. Were it not for such a drainer, formed by these fringes with the aid of the tongue, which is merely a great mass of fat tied down to the lower jaw, the emission of the water would be attended by the escape of all the objects which entered with it. As it is, the most minute matters are retained; and shrimps, sea snails, small crabs, medusæ, &c., are thus entrapped to support the great monster of the deep.

The remaining features in the structure of the whale need not be individually described at the same length. *The skin consists*, first of the scarf-skin, or epidermis, *which is moistened* by an oily fluid, enabling it to resist *the action of water*; secondly, of the *rete* mucosum, a *layer usually held* to contain the colouring matter of *all animal surfaces*; and, thirdly, of the true skin, which, for particular purposes, is open in texture to contain oil, or blubber as it is called, in great tities. This mass of oil, surrounding the whole and sometimes weighing more than thirty ton serves the important end of keeping the anima by its weak conducting powers, amid the coldest of the polar ocean, and is also calculated to re enormous pressure to which the body of the must be subjected at the depths to which descends. Whales have been known to take perpendicularly down to the full extent of a had not this ample layer of fat, between one feet thick, been wrapped around them, posse resisting power like that of caoutchouc, it is dif imagine how, in such a case, they could end immense weight of superincumbent water. Ma being inferior in specific gravity to the water, it is that all this body of oil must be of incalculabl augmenting the buoyancy of the animal's frame. the skin are situated the muscles or flesh, and t racter of this structure is much the same in th as in the ox or horse. With the exception of the arrangement of the various muscles of th does not differ very much from that of quad and the same remark applies to the osseous str The fins are merely rudimental arms, containing the same bones as in man, and the chest struc sembles that of ordinary quadrupeds. The v column of the rorqual whale contains sixty-three those of the Greenland whale are not quite so rous. The skull consists of the crown-bone, fro the facial bones and upper jaw project forward the lower jaw is composed of two long curved that meet at the point or fore-part of the mouth. are often put up over gates, and make a han archway. The whole of these bones are lar porous, and some of them, as the lower jaw-bone tain oil, but they are said to have no proper med marrow. The total weight of Dr Knox's skeleton was twenty-eight tons.

The organs of respiration in the whale are upon the same principle as those of land anim with modifications to suit the peculiar element in the creature lives. It is plain that some provisi required to permit the whale to breathe with risk of having the lungs filled with water. This complished by the extension of the top of the pipe into the nostrils or blowholes, or rather in passage which terminates in these in the common By this contrivance, the creature can inhale air it is feeding or has its mouth full of water. A terrestrial animals, the air gives a red colour blood, or, in other words, oxygenates it, and s the animal heat. The whale has frequently to c the surface, accordingly, to get its air, but this tion is rendered less frequently necessary by the sion of a reservoir of oxygenated blood, which drawn upon when required. This is the cause w animal has such a vast proportionate quantity of in its frame. The brain of the whale is held by to be large in relation to the animal, but no de nate conclusions have been reached on the s The arrangements of the whole nervous syste equally little understood. It is known that whales pretty acute vision, but there is a doubt whether they have any external ear. Their sense of smell to lie in the blow-holes, yet the strongest reas ascribing such a faculty to them at all is founded the half-traditionary notion of sailors, that if strong smelling substances are thrown over whales will fly from the spot at once. The mamm dugs of the common whale are two in numbe attached to the abdomen; in the case of some varieties, they are placed on the breast. In both they are situated inferiorly. The milk of the is said to be rich and creamy.

Such are the general characters of structure whale tribe, and, on regarding them attentively cannot but feel amazed at the seeming simplici

sure of success. And here nature is again by a singular coincidence, discoverable in the map of the world, most coasts and con- in a northern and southern direction. Hence ttached, by seamen, to an accurate know- e latitude; and hence the saying of "Lati- and look-out." Although, as we have stated, s follow a northern and southern direction, et not a few which lie east and west, so that g them are only determined by the longitude. to have the satisfaction, not merely to run long the chart, and say, "I am somewhere parallel," but to be able to point to the spot, I am there," is, to the nice navigator, no motive.

TO FIND THE LONGITUDE.

ways have been devised to find the longitude, ich the great element is time. The earth per- diurnal revolution in 24 hours, or, in other h part of the circumference of the globe, livided into 360 degrees, is brought under ce a-day. Hence, each part of the circum- ckoning from east to west), has its own pecu- f day. When it is noon at one place, it is afternoon at another place, two at another, the time differs all round the globe. Divid-) degrees by 24, we find that 15 is the result; 5 degrees, therefore, along the circumference, twards, there is an hour of difference, in nd, going eastwards, an hour behind. If it Greenwich, it will be one o'clock at a point s east from it (that is, the sun has passed hour ago), and eleven o'clock forenoon at a egrees west from it (that is, the sun will be getting up to it). Dividing the 60 minutes by 15, the result is 4; the earth, therefore, ler the sun at the rate of a degree, or 60 al miles, in four minutes, or 15 miles in the one mile in the four seconds, or a quarter of he second. Here, then, the element of time at once, and in the most satisfactory manner, on the distance of any given place, east or any other given place. The measuring of ance is called finding the longitude. Different the globe have been established as starting making these measurements. The French m Paris, and the English from Greenwich, ear London, where an astronomical obser- s been long established and supported at the pense. In all English works of geography, ude is reckoned from Greenwich, although sly mentioned. Navigators determine their by watches or chronometers, whose movements act as can possibly be obtained from mecha- setting out on a voyage, the chronometer is don time, and kept going at that time. At of noon of each day, as determined by an n with the sextant, the difference is estimated hat hour and the hour indicated by the chro- and that difference is the longitude east or reenwich, as the case may be. Some mari- security, take several chronometers to sea , as one only is by no means a safe guide. In however, the masters of coasting traders, or pursue short voyages by regular lines of pend on books containing lists of longitudes of latitudes.

MARINE BAROMETERS.—LOG-BOOK.

t great requisite in navigation is a good baro- indicate the approach of foul weather. The ate instrument of this kind is the sympeso- Adie, by which the earliest and most certain s are presented of coming storms. In treating ture and value of instruments of this nature, t makes the following observations:—"The captain of the present day, trusting to this nary monitor, is frequently enabled to take in sail and to make ready for the storm, when in former times the dreadful visitation would have fallen upon him unprepared. The marine barometer has not been in general use for many years, and the author was one of a numerous crew who probably owed their preser- vation to its almost miraculous warning. It was in a southern latitude. The sun had just set with placid appearance, closing a beautiful afternoon, and the usual mirth of the evening watch was proceeding, when the captain's order came to prepare with all haste for a storm. The barometer had begun to fall with appalling rapidity. As yet, the oldest sailors had not perceived even a threatening in the sky, and were surprised at the extent and hurry of the preparations: but the required measures were not completed, when a more awful hurricane burst upon them than the most expe- rienced had ever braved. Nothing could withstand it; the sails, already furled and closely bound to the yards, were riven away in tatters: even the bare yards and masts were in great part disabled; and at one time the whole rigging had nearly fallen by the board. Such, for a few hours, was the mingled roar of the hurricane above, of the waves around, and of the incessant peals of thunder, that no human voice could be heard, and amidst the general consternation even the trumpet sounded in vain. In that awful night, but for the little tube of mercury which had given the warning, neither the strength of the noble ship, nor the skill and energies of the commander, could have saved one man to tell the tale. On the following morning the wind was again at rest, but the ship lay upon the yet heaving waves, an unsightly wreck."

A journal of events and observations on board ship is usually kept in what is called the log-board, and transferred thence into the log-book. The log-board consists of two boards shutting together like a book, and divided into several columns, containing the hours of the day and night, the direction of the winds, and the course of the ship, with all the material occurrences that happen during the twenty-four hours, or from noon to noon, together with the latitude of observation. From this table, which is written in chalk and daily effaced, the officers work the ship's way, and compile their journals. From it, also, entries are carried to the log-book, in an expanded form, with any observations and additional particulars supposed to be necessary. The log-book is thus the journal of the ship, and is preserved with great care for exhibition, if required, at the termination of the voyage.

Thus, then, by the use of various instruments and practical experience in navigation, a ship is conducted from port to port, dangers avoided and difficulties over- come. Though they who traverse the vast ocean leave no track for the guidance of those who follow, it is thus converted into a plain and convenient highway, extend- ing to the extremities of the earth.

SAILING.

It is important that young men, in acquiring in- struction in navigation, should also make themselves acquainted with the laws of fluid and atmospheric action. These are treated of in other parts of the present work, and need here be only alluded to in a general way in reference to the sailing of vessels.

A ship at sea depends principally on the winds as a means of impulsion to its destined port. In moving through the water, it encounters a certain resistance which must be overcome by the pressure on the sails. The degree of this resistance depends on the shape of the vessel, and also on the degree of speed to which the vessel is urged in its course. Of the proper shape of the vessel to give the least possible resistance, we have the best of all examples in those which nature has pre- sented to our observation in the form of the duck and other water-fowl, and also in the trout, haddock, salmon, and various other kinds of fish. In all these natural models, the form is that of a wedge with the broad end foremost, leaving the narrow tapering end behind to allow the displaced fluid to disperse itself freely. Thus,

it is of less importance to have sharp bows to cleave the water, than to have a *fine run* or gradual taper from bows to stern. Of this peculiarity of construction we shall hereafter speak in the article SHIPS; our object at present is chiefly to notice the principle of resistance in relation to the speed. According to the laws of liquids, *the resistance presented by the water increases as the square of the speed*, that is, the resistance is four times greater with only a double rate of speed. This law of fluid action is simply and beautifully explained by Dr Arnot. "A boat which moves one mile per hour, displaces a certain quantity of water, and with a certain velocity; if it move twice as fast, it of course displaces twice as many particles in the same time, and requires to be moved by twice the force on that account; but it also displaces every particle with a double velocity, and requires another doubling of the power on this account: the power thus being doubled on two accounts, becomes a power of four. In the same manner, with a speed of three, three times as many particles are moved, and each particle with three times the velocity; therefore, to overcome the resistance, a force of nine is wanted; for a speed of four, a power of sixteen; for a speed of five, a power of twenty-five, and so forth. Thus, even if the resistance at the bow [fore part] of a vessel were all that had to be considered, the force of 100 horses would only drag the vessel ten times as fast as the force of one horse. But there is another important element in the calculation, namely, the lessening, as the speed quickens, of the usual water pressure on the stern [hind part], which pressure, while she is at rest, is equal to the pressure on the bow; and the force, therefore, required to produce an increased velocity is still considerably greater than that noted. There is not a more important truth in physics than the law of fluid resistance to moving bodies, here treated of; it explains so many phenomena of nature, and becomes a guide in so many matters of art.

We shall now (continues the Doctor) set forth some interesting examples. It explains at what a heavy expense of coal high velocities are obtained in steam-boats. If an engine of about 50 horse power would drive a boat 7 miles an hour, two engines of 50, or one of 100, would be required to drive it 10 miles, and three such to drive it 12 miles; even supposing the increased resistance at the bow, as already stated, to be the measure of the whole work done, which it is not, and that engines work to the same advantage with a high velocity as with a low, which they do not. For the same reason, if all the coal which a ship could conveniently carry were just sufficient to drive her 1000 miles, at the rate of 12 miles per hour, it would drive her much more than 3000 at a rate of 7 miles per hour; and much more than 6000 at a rate of 5 miles per hour. This is a very important consideration for persons concerned in steam navigation to distant parts.

The same law shows the folly of putting very large sails on a ship; there being a disadvantage in point of speed by no means compensating for the additional expense of making and working the sails, and the risk of accidents in bad weather. The ships of the prudent Chinese have not, for the same tonnage, one-third so much sail as those of Europeans, and yet they move but a little slower on that account. A European ship under jury masts does not lose so much of her usual speed as most people would expect.

The law explains also why a ship glides through the water better when there is very little wind, although with a strong breeze she would only sail at the rate of four or five miles. Less than the 100th part of that force of wind which drives her 10 miles an hour, would drive her 1 mile per hour, and less than the 400th part would drive her half a mile. Thus, also, during a calm, a few men pulling in a boat can move a large ship at a considerable rate.

These considerations show strikingly of what importance to navigation it might be to have, as a part of a ship's ordinary equipment, one or two water-wheels, to be affixed upon the ship's side when required, like the paddle-wheels of a steam-boat, and by turning which the crew might deliver themselves from the tedium, or even disastrous consequences, of a long calm at sea."

The impulse which a vessel at sea receives from the wind, is generally of greater value when given in some degree sideways, than when direct on the stern, at least it is so when there are several masts and sails. The reason of this is very obvious: when the wind blows directly astern, it can only affect one or perhaps two sails with any commensurate force; but when it blows slantingly on the vessel in the direction of its course, every sail in the ship may be trimmed to meet the breeze, and so all receiving an equally powerful impulse, a corresponding effect is produced. It is one of the prime arts in seamanship so to trim or arrange the sails of a vessel, as to take advantage of a wind which is almost right ahead. This is called sailing close to the wind. Some vessels, by tacking, or sailing in a zig-zag direction, can be made to proceed within a very few points of the wind, and thus are always getting on a little in their course, while others, less favourably rigged and managed, would be compelled to lay to or stop. Dr Arnot suggests a method by which vessels might be made to steer, that is, guide, themselves through the ocean, particularly in cases of emergency.

"It is possible to make a ship or boat steer itself, by placing a powerful vane on the mast-head, and connecting it with the tiller-ropes by two projecting arms from its axis. If it were desired to make the ship sail directly before the wind, the tiller-ropes would be fixed to the vane, so that the helm should be in the middle position when the vane were pointing directly forward: should the vessel, then, from any cause deviate from her course, the vane, by its changed position with respect to her, would have produced a corresponding change on the position of the helm, and just such as to bring her back to her course. Again, it is evident that, by adjusting such a vane and rudder to each other in different ways, any other desired course might be obtained, and which would alter only with the wind. The vane would require to be of large size to have the necessary power; a wide hoop, for instance, with canvass stretched upon it; and the rudder, that it might turn with little force, would be hung on an axis passed through its middle, instead of, as usual, by hinges at one edge. Cases have occurred where shipwrecked persons might have sent intelligence of their disaster to a distant coast by a small vessel, or even a block of wood fitted up in this way; and the method might sometimes save an additional hand in a boat's crew."

DOMINION OF THE SEAS.

It is a common law of nations that the ocean is a free and universal highway, which no state can appropriate to its own especial use. While this exists as a principle generally recognised by all civilised powers, Great Britain has for a considerable period of time claimed *the dominion of the seas*, as a right acquired by extensive conquest, and the skill and valour of its seamen. By this claim, it is not assumed that Great Britain possesses a legal right of property in the waters of the ocean, or the lands which they may cover. The claim resolves itself into what is termed in law "a military sovereignty," which it would be exceedingly difficult to define, and is practically an empty and inglorious boast. Within the last twenty years, during which a large maritime force has grown up in France, Russia, and the United States of America, yielding to the British to the dominion of the seas [illegible] heard of, and is perhaps now a dead letter in point of law, as it is in fact. Each nation has a perfect control over its vessels and their crews, or wherever part of the ocean they may be; all crimes and misdemeanours committed on board a ship are punishable by law, as soon as the vessel reaches the country to which it belongs.

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e whale is, will furnish it with no contemptible mouth-
l. In the gullet of one spermaceti whale, an arm or
ntaculum of a sea-squid was found, measuring nearly
enty-seven feet long. The native divers of the South
as have a mortal dread of these squids, and no wonder,
eing that the strength of man is totally inefficient to
ar away their tentacula when they are once fixed. A
val captain, we are informed by Sir Grenville Temple,
ce came in contact with a large sepia when bathing.
e animal attached itself to one foot; he felt this, and
rove to disengage the creature with the other foot,
t it fixed upon that too. He seemed then to have
ade an attempt to free himself with his hands. These
so were firmly grasped, and the poor man was soon
ter found bound hand and foot, and drowned past re-
very! Mr Beale relates an adventure which he him-
lf had with one of these creatures. He saw it near
e surf on one of the Bonin islands, and made some
lf sportive attempts to capture it, not anticipating
y possible harm from a creature which had a blubbery
dy not above the size of a clenched fist, though its
ntacles appeared about two feet in length. He took
ld of one of them, and was endeavouring to pull
e creature from the rock, when suddenly it turned
und and sprang upon his arm, which had been bared
r the purpose of seeking shells. It fastened its cold
my body upon him so firmly that he was in great
arm, especially as it endeavoured to fix its mouth
ext. He ran to the boat to his friends, and the animal
as disengaged, but only by cutting it in pieces. These
uids are very numerous in the Pacific seas, and the
erm-whale has abundant feeding upon them and other
all fishes.

The cachalot is seldom or never seen in the Green-
nd seas, at least by modern navigators. It is spread,
owever, over an immense expanse of the ocean, having
en captured, at some time or other, almost every
here between the latitude of 60° south and 60° north.
he coasts of New Guinea and the adjacent archipe-
goes, the shores of New Holland, Mitchell's Group,
ew Zealand, Navigator isles, Ellis's Group, the shores
Peru, Chili, California, Japan, the Persian Gulf, the
hinese seas, the Molluccas, and many other parts of
e ocean, abound more or less with this valuableceta-
ous tribe.

In the Naturalist's Library, an able periodical, under
e conduct of Sir William Jardine, we find the follow-
g minor genera of whales enumerated, after a descrip-
on of the mysticetus, the rorquals, and the cachalot,
e three varieties of greatest use to man. 1st, The
arwhal, or sea-unicorn, an animal from sixteen to
venty feet long, and provided with a straight tusk or
orn (sometimes two), about four or five feet in length,
id projecting from the snout. The animal has a
otted, greyish body, handsomely rounded off, and
ntaining usually near a ton of oil, much prized by
e Greenlanders, on whose coasts the narwhal is often
en. The horn yields beautiful ivory, and is greatly
ught on that account. 2d, The diodons, or two-toothed
hales. These are of a size similar to the preceding,
nd are a variety of little or no value. 3d, The hype-
odons, animals of a dark colour, about twenty feet
ng, and distinguished by knobs in place of teeth.
th and 5th, The aodons and the xiphius, two classes
f small toothless whales. 6th, The beluga, or white
hale, a creature of pure white colour, exceedingly
ounded and symmetrical in form, and from twelve to
wenty feet long. It abounds on the northern coasts
f Asia and America. In 1815, a beautiful specimen
f the race haunted the Forth for three months, and
as finally killed, and placed in the Edinburgh Museum.
th, The delphinapterus, a South-sea whale, is about six
et long, and remarkable only for being beaked some-
hat like a bird. 8th, The deductor is an Arctic animal,
lack in colour, and twenty or twenty-four feet long.
t has scarcely any snout, and is most noted for its
ower of uttering loud cries when in distress, which
ircumstance has obtained for it the name of the *ca'ing*
calling) whale. Whether other species can cry or sea-

to the body. This appendage is placed horizontally, and is about twenty-four feet broad. It is an instrument of immense power, and the whale has sometimes given a stroke with it which has sent large boats high into the air in a thousand splinters. The colour of the body is mainly a velvety black; the under part of the head and abdomen, and the junction of the tail, being partly white and partly of a freckled grey. In old whales, much more of the body assumes the latter tint, and the streaks sometimes resemble a beautiful landscape of trees. On the tail, in one instance noticed by Ray, nature, in a freakish mood, had set down the number 122, in large and very distinct characters. The eyes of the whale are about a foot behind the angle of the mouth, and are not much larger than those of the ox. The iris is of a white colour, and the organs are guarded by lids and lashes as in quadrupeds. The two blow-holes of the whale, situated on the summit of the head, and descending perpendicularly through it for a length of twelve inches or so into the top of the windpipe, are the only other features worthy of notice in the exterior aspect of the Greenland whale.

The mouth of the common whale is an organ of very wonderful construction. In a large specimen of the race, it may measure, when fully opened, about sixteen feet long, twelve feet high, and ten feet wide—an apartment, in truth, of very goodly dimensions. It contains no teeth, and enormous as the bulk of the creature is, its throat is so narrow that it would choke upon a morsel fitted for the deglutition of an ox. An inch and a half is stated to be the diameter of the gullet in the very largest whales. From this peculiarity of formation, it may be anticipated that the food of the animal is of a very minute nature, notwithstanding the vastness of the cavity which is prepared for its primary reception. The animal is indeed supported upon a multitude of smaller inhabitants of the deep, and, to permit this, its mouth is provided with a remarkable apparatus, composed of what is called the *baleen*, or the well known *whalebone* of commerce. The baleen is arranged in two rows of laminæ or thin plates, projecting laterally from a line in the centre of the arch of the palate, somewhat like the leaves of a book. Towards their point of origin, they are comparatively few in number and strong, while towards the lips they divide and taper away into mere bristles, forming a loose hanging fringed border. There are about three hundred of these plates on each side, and, when dried, they weigh nearly a ton. In the rorqual whale they are more numerous, and we find from the observations, given by Dr Jonathan Knox, of the one exhibited at Edinburgh, that three hundred and forty-two plates were counted on each side of the mouth of that animal. The whole number of plates which could be counted, not including the more minute fringy portions, was 3708. The longest plates of baleen, which is always placed about the centre of the series, could be measured two feet two inches in length by the above-named gentleman. "The substance which we call whalebone," says Dr Knox, "is very elastic."

The use of these plates, we think, is now completely established. The whale, in taking its food, opens its mouth, and the water rushes in with the animalcules which are destined for its nourishment. Were it not for such a contrivance, these animalcules, with the addition of a large mass of the fluid they are in, would occupy a great space of the stomach, and thus prevent the animal from receiving by the mouth a sufficient quantity of its proper food. As soon as the water has entered the mouth, the tongue, which is very large, is pressed against the roof of the mouth, and the water is forced out through the baleen, which retains the animalcules, and prevents them from escaping with the great mass of water.

There is another feature in the structure of the whale worthy of notice. Under the skin there is a layer of fat, which, in the case of the rorqual whale, is about two feet in thickness, and is evidently intended to resist the cold of the water. This fat, or *blubber*, as it is commonly called, a layer of which is found in all the true whales, which, for particular purposes, is open in texture, so as to contain oil, or blubber as it is called, in great quantities. This mass of oil, surrounding the whole animal, and sometimes weighing more than thirty tons in all, serves the important end of keeping the animal warm by its weak conducting powers, amid the coldest recesses of the polar ocean, and is also calculated to resist the enormous pressure to which the body of the creature must be subjected at the depths to which it often descends. Whales have been known to take a line perpendicularly down to the full extent of a mile, and had not this ample layer of fat, between one and two feet thick, been wrapped around them, possessing a resisting power like that of caoutchouc, it is difficult to imagine how, in such a case, they could endure the immense weight of superincumbent water. Moreover, being inferior in specific gravity to the water, it is obvious that all this body of oil must be of incalculable use in augmenting the buoyancy of the animal's frame. Below the skin are situated the muscles or flesh, and the character of this structure is much the same in the whale as in the ox or horse. With the exception of the tail, the arrangement of the various muscles of the whale does not differ very much from that of quadrupeds, and the same remark applies to the osseous structure. The fins are merely rudimental arms, containing nearly the same bones as in man, and the chest strongly resembles that of ordinary quadrupeds. The vertebral column of the rorqual whale contains sixty-three bones, those of the Greenland whale are not quite so numerous. The skull consists of the crown-bone, from which the facial bones and upper jaw project forward, while the lower jaw is composed of two long curved bones, that meet at the point or fore-part of the mouth. These are often put up over gates, and make a handsome archway. The whole of these bones are hard and porous, and some of them, as the lower jaw-bones, contain oil, but they are said to have no proper medulla or marrow. The total weight of Dr Knox's rorqual skeleton was twenty-eight tons.

The organs of respiration in the whale are formed upon the same principle as those of land animals, with modifications to suit the peculiar element in which the creature lives. It is plain that some provision is required to permit the whale to breathe without the risk of having the lungs filled with water. This is accomplished by the extension of the top of the windpipe into the nostrils or blow-holes, or rather into a passage which terminates in two in the common whale. By this contrivance, the creature can inhale air when it is feeding or has its mouth full of water. As in terrestrial animals, the air gives a red colour to the blood, or, in other words, oxygenates it, and warms the animal heat. The whale has frequently to rise to the surface, accordingly, to get its air, but this operation is rendered less frequently necessary by the possession of a reservoir of oxygenated blood, which can be drawn upon when required. This is the cause why the animal has such a vast proportionate quantity of blood in its frame. The brain of the whale is known to be large in relation to the animal, but no other conclusions have been reached on the subject. The arrangements of the whale nervous system are equally little understood. It is known that the animal has pretty acute vision, but there is a doubt whether or not they have any external ear. There seems no doubt as to the blow-holes, yet the best-informed whalers do not seem a faculty to the animal in question. The ordinary notion of sailors, that whales, when struck, sometimes spout blood instead of water, which is only from those spouting. The nipples of the common whale are two in number, and attached to the abdomen; in the case of some other species, they are placed on the breast. In both cases they are situated very poorly. The limbs of the animal are said to be rich and creamy.

Such are the general characters of structure in the whale tribe, and, on regarding them attentively, one cannot but feel amazed at the seeming simplicity with

ep them from being overboated by friction, and a few
ier articles, are also laid down in the boats for use.

MODE OF FISHING.

Whenever there is a probability of seeing whales,
master, or some experienced officer, keeps a close
k-out from the crow's-nest, a station at the mast-head
called. With the assistance of a telescope, he scans
surface of the waters around, ready, at the first
mpse of a fish, to give notice to the watch on deck.
fine weather, a boat is kept afloat, manned, and
gaged also in the look-out. The short time during
hich whales usually remain above water to breathe
eing only two minutes), renders the discovery of them
s easy than might be anticipated from their great
lk. Besides, while below water, the animal frequently
verses a space of half a mile in the ten or fifteen
inutes intervening between the respirations; and hence
e spot at which it may again rise, after being once
en and again disappearing, is left in a great measure
subject of conjecture. The previous direction of the
hale's movements, and occasionally a sort of eddy on
e surface, are the only guides to the boatmen in this
rticular. When the whale does come up within reach
a harpoon-cast, and lies unconscious of the approach
its enemies, "then (says Captain Scoresby) the
rdy fisher rows directly upon it, and an instant
fore the boat touches it, buries his harpoon in its
ck. But if, while the boat is yet at a little distance,
e whale should indicate his intention of diving, by
ting his head above the common level, and then plunge
g it under water, and raising its body until it appear
e the large segment of a sphere, the harpoon is
rown from the hand, or fired from a gun, the former
which, when skilfully practised, is efficient at the
stance of eight or ten yards, and the latter at the dis-
nce of thirty yards or upwards. The wounded whale,
the surprise and agony of the moment, makes a con-
lsive effort to escape. Then is the moment of danger.
he boat is subjected to the most violent blows from
head or its fins, but particularly from its ponderous
l, which sometimes sweeps the air with such tremen-
us fury, that both boat and men are exposed to one
mmon destruction.

The head of the whale is avoided, because it cannot
penetrated with the harpoon; but any part of the
dy between the head and tail will admit of the full
ngth of the instrument, without danger of obstruction.
he harpoon, therefore, is always struck into the back,
d generally well forward towards the fins, thus afford-
g the chance, when it happens to drag and plough
ong the back, of retaining its hold during a longer
me than when struck in closer to the tail.

The moment that the wounded whale disappears, or
aves the boat, a jack or flag, elevated on a staff, is
splayed, on sight of which, those on watch in the ship
ve the alarm, by stamping on the deck, accompanied
y a simultaneous and continued shout of 'a fall!'* The
eeping crew, roused by the sound, jump from their
ds, rush upon deck, with their clothes tied by a
ring in their hands, and crowd into the boats, at a
mperature of zero. They generally contrive to dress
emselves, in part at least, as the boats are lowered
own; but sometimes they push off in the state in which
ey rise from their beds, row away towards the 'fast
oat,' that is, the boat attached by its harpoon and line,
the whale, and have no opportunity to clothe them-
lves for a length of time afterwards. The alarm of
a fall' has a singular effect on the feelings of a sleeping
rson, unaccustomed to the whale-fishing business.
has often been mistaken for a cry of distress. A
ndsman in a Hull ship, seeing the crew, on the occa-
on of a fall, rush upon deck, with their clothes in their
nds, when there was no appearance of danger, thought

* The word 'fall,' as well as many others used in the fishery,
derived from the Dutch language. In the original it is written
l, implying jump, drop, fall, and is considered expressive of
e conduct of the sailors when manning the boats, on an occa-
on requiring extreme dispatch.

imaginary shelter; or it returns instantly to the surface, and gives evidence of its agony by the most convulsive throes, in which its fins and tail are alternately displayed in the air, and dashed into the water with tremendous violence. The former behaviour, however, that is, to dive towards the bottom of the sea, is so frequent, in comparison of any other, that it may be considered as the general conduct of a fast fish.

A whale struck near the edge of any large sheet of ice, and passing underneath it, will sometimes run the whole of the lines out of the boat, in the space of eight or ten minutes of time. This being the case, when the 'fast boat' is at a distance, both from the ship and from any other boat, it frequently happens that the lines are all withdrawn before assistance arrives, and, with the fish, entirely lost. In some cases, however, they are recovered. To retard, therefore, as much as possible, the flight of the whale, it is usual for the harpooner who strikes it, to cast one, two, or more turns of line round a kind of post, called a ballard, which is fixed within ten or twelve inches of the stern of the boat for the purpose. Such is the friction of the line, when running round the ballard, that it frequently envelopes the harpooner in smoke; and if the wood were not repeatedly wetted, would probably set fire to the boat. During the capture of one whale, a groove is sometimes cut in the ballard, near an inch in depth; and were it not for a plate of brass, iron, or a block of lignum vitæ, which covers the top of the stem where the line passes over, it is apprehended that the action of the line on the material of the boat would cut it down to the water's edge, in the course of one season of successful fishing. The approaching distress of a boat, for want of line, is indicated by the elevation of an oar, in the way of a mast, to which is added a second, a third, or even a fourth, in proportion to the nature of the exigency. The utmost care and attention are requisite, on the part of every person in the boat, when the lines are running out; fatal consequences having been sometimes produced by the most trifling neglect. When the line happens 'to run foul,' and cannot be cleared on the instant, it sometimes draws the boat under water; on which, if no auxiliary boat or convenient piece of ice be at hand, the crew are plunged into the sea, and are obliged to trust to the buoyancy of their oars, or to their skill in swimming, for supporting themselves on the

miles, per hour. By the motions of the fas
simultaneous movements of the whale are
The auxiliary boats, accordingly, take the
about the situation where the whale, from the
may reasonably be expected to appear.

The average stay under water of a woun
which steadily descends after being struck,
to the most usual conduct of the animal, is a
minutes. The longest I ever observed w
minutes; but in shallow water, I have been
it has sometimes been known to remain an
half at the bottom after being struck, an
returned to the surface alive. The greater t
the more considerable the distance to which i
and the longer the time it remains under wate
greater in proportion is the extent of its exha
the consequent facility of accomplishing it
Immediately on its reappearing, the assisting
for the place with their utmost speed, and as
it, each harpooner plunges his harpoon int
to the amount of three, four, or more, accor
size of the whale and the nature of the situati
frequently, however, it descends for a few mi
receiving the second harpoon, and obliges
boats to await its return to the surface,
further attack can be made. It is afterwar
plied with lances, which are thrust into its bo
at its vitals. At length, when exhausted by
wounds and the loss of blood, which flows fro
animal in copious streams, it indicates the a
its dissolution by discharging from its 'bl
mixture of blood along with the air and mu
it usually expires, and finally jets of blood al
sea, to a great extent around, is dyed with
and the ice, boats, and men, are sometimes
with the same. Its track is likewise marked
pellicle of oil, which exudes from its wo
appears on the surface of the sea.

Its final capture is sometimes preceded by
sive struggle, in which its tail, reared, wh
violently jerked in the air, resounds to the
miles. In dying, it turns on its back or s
which joyful circumstance is announced by
turers with the striking of their flags, accom
three lively huzzas!"

The writer of this animated description

the line repeatedly round its body. The first angled, as was suspected, had long been dead; was this lucky interloper that occasioned the nd other singular effects observed on the line."

whale-fishing is apt to be impeded, as may be imagined, by the great masses of ice every abounding in the northern seas. The usual of proceedings in open water has been described; rent circumstances, different plans must be l. *Pack-fishing* is the name given to the chase whale on the borders of close packs of drift-ice. imal loves to shelter his vast bulk under the lee frozen masses, and, when struck, usually flies for refuge, thus endangering the lines and lives whalemen. The common method of providing such contingencies, is either to strike the fish wo harpoons from different boats at the same t, or to affix the line of a second boat to that of from which the whale has been harpooned, so e strength of two lines is brought into play the fish. Sometimes, when a fish gets entangled drift-ice, the adventurous seamen climb over it, ice the animal from that perilous station. Also- pack-fishing is troublesome and dangerous, and not that the largest whales often resort to such ns, whalers would seldom attempt to fish there. the other hand, *field-fishing*, as it is called, or on the edges of those wide connected plains of med fields, is one of the most productive of all des of fishing prosecuted in the Greenland seas. the weather is tolerably mild, it is also a pretty mode. The most marked of the advantages held field-fishing, is the curtailment of the range of ale's movements. When harpooned, it com- descends obliquely beneath the field, and, being to rise through the ice, is forced to return to ge, or nearly to the spot where it made the . Thus, the ship's boats, if stationed along the of the field, can at once harpoon it a second and dispatch it. In open water, the whale, by at a spot far apart from where it dived, gains breathe freely and recruit its strength, and so breaks away altogether, or greatly protracts the e. For this reason, six boats at a field will do rk of twelve in open sea. Two or more fish are ntly taken at a field at one time, and on a parti- occasion six fish were actually captured at once seven boats of a single ship. Even in such r as renders fishing impracticable elsewhere, shing can be prosecuted with success. But there advantages also attendant on this mode. The ents of fields of ice are so rapid, various, and untable, and their powers of doing mischief so ted, that the utmost prudence and skill cannot en- secure vessels lying in their vicinity from the risk re damage or total destruction. Small fields or re especially dangerous, particularly if they con- mall cracks or holes in the centre of them. The of a sudden movement in such floes is much r than in the case of the large fields, and, more- after being struck, the whale generally makes for ertures in the ice, and there breathes freely, ing it necessary for the men to cross the field on nd dispatch their prey with the lance. Even they succeed in doing this, there is no way of out the whale but by sinking it, and dragging below the ice, at the great risk of pulling out rpoon altogether; or by cutting the blubber and transporting it over the surface of the floe, by piece. These operations are attended with bour and loss of time. "As connected with this t (says Captain Scoresby), I cannot pass over a stance which occurred within my own observa- and which excited my highest admiration. On h of July 1813, the ship Esk lay by the edge of t of ice, in which were several thin parts, and holes. Here a fish being heard blowing, a har- with a line connected to it, was conveyed across e from a boat on guard, and the harpooner suc-

officers lamented this circumstance, and expressed a wish that the harpoon were better fast; observing, at the same time, that if it should slip out, the whale would either be lost or they would be under the necessity of cutting it up where it lay, and of dragging the pieces of blubber over the ice to the ship—a kind and degree of labour which every one was anxious to avoid. No sooner was the wish expressed, and its importance made known, than one of the sailors, a smart and enterprising fellow, stepped forward and volunteered his services to strike it better in. Not at all intimidated by the surprise which was manifested in every countenance by such a bold proposal, he pulled out his pocket-knife, leaped upon the back of the living whale, and immediately cut the harpoon out. Stimulated by this courageous example, one of his companions proceeded to his assistance. While one of them hauled upon the line and held it in his hands, the other set his shoulder against the extremity of the harpoon, and though it was without a stock, he contrived to strike it again into the fish more effectually than it was at first; the fish was in motion before they finished. After they got off its back, it advanced a considerable distance, breaking the ice all the way, and survived this uncommon treatment ten or fifteen minutes. This admirable act was an essential benefit. The fish fortunately sank spontaneously after being killed, on which it was hauled out to the edge of the ice by the line, and secured without further trouble. It proved a stout whale, and an acceptable prize."

If whalers could choose their own ground for fishing, many of them would probably prefer a position among open, navigable drift-ice, where the force of the sea is broken, and heavy swells prevented from affecting the vessel. This kind of fishing is called *open pack-fishing*, and is held to be advantageous for the capture of whales. Where the ice is crowded, however, and affords room only for boats to pass through it, the chase becomes difficult and hazardous. Still, as the fishers must take the seas as they find them, fishing is often conducted in this situation of things. Success depends on the boats being spread widely, on the incessant watchfulness of the harpooners, and on their

below the ice, by keeping a steady and
If this plan failed, Captain Scoresby pla
a pair of ice-shoes, formed simply of th
to the centre of which the feet were tie
boldly crossed the thin ice to the point
direction of the line, he knew the fish
three instances he was fortunate enou
whale through the ice and to plunge h
its body, after which he used his lance,
the fish was killed. The fish actually
twice beneath the very spot where he s
through the ice with its head. He wa
to escape all injury, however, though
places could not have borne the weight
ing in common shoes. This kind of
though successful, will be regarded by
somewhat daring and hazardous.

Of course, in all these various ways
cumstances now and then occur which
all ordinary rules. The whale, for
struck near the margin of a small floe,
in restraint, and killed by the use of th
most *two* boats. On the 25th of June
a harpooner belonging to the Resoluti
struck a fish close by a small floe, und
appeared. Assistance was quickly give
boat's lines were attached to those of t
boat attached to the whale), after whic
the other boatmen, who spread out for
But in a short time distress signals we
fast-boat, and before aid could be affo
were seen to throw themselves into th
diately afterwards the bow of the bo
water, the stern rose in the air, and the
cally disappeared. An accidental cir
prevented the cutting of the lines.
picked up, and a search commenced for
was ere long seen, and no less than t
each having a boat and its lines attac
buried in the animal's body. Every on
all was now secure beyond risk. Not so
whale pushed impetuously forward, an
of one boat found their lines run out, a

en obliged to return home to their respec-
where the blubber is separated from its en-
verted into oil by boiling, and the whalebone
eaned, and dried for sale. These operations
special description, the names of the pre-
ciently indicating their character. The
rge ever borne to the shores of Britain by
vessel, was that brought from Spitsbergen
Souter of the Resolution of Peterhead, in
814. It consisted of 44 whales, which pro-
tuns of oil, value, reckoned at £32 per ton,
e price of that year, £2368; and when to
added the value of the whalebone, and the
e freight would appear to have reached
When oil rose to £60 per ton, smaller cargoes,
instances, amounted to an equal value. In
ursleys, father and son, respectively brought
oes which produced the sum of £11,000.
oresby, senior, in the course of 28 voyages,
he immense number of 498 whales, the oil
ons of which amounted in value to above
But few single cargoes produce such sums,
allowed, as £11,000, and few individual men
a career of activity to look back upon as
oresby.

ENT CONDITION OF THE WHALE FISHERY.

ears 1814, 1815, 1816, and 1817, 332 vessels
England, and 194 from Scotland, for the
ry. Of these, the port of Hull, which has
the precedence in this trade, sent out not
29 vessels, while London, Aberdeen, Leith,
y, the next in proportion, sent out respec-
55, 40, and 39. The total number of whales
British ships in the same years, was 5030,
ed 54,508 tons of oil, and 2697 tons of whale-
e average to each ship was 8.6 whales, 93
and 4.6 tons of whalebone. By comparison
llowing more recent years, the progressive
of the trade will be seen. In 1820, 140 vessels
from Great Britain to the fishery. In 1821,
number was greatest, there were 142 ships,
tons, and with 6074 men engaged in the
1824, 120 ships, of 35,194 tons, and 4867
1829, a great falling off had taken place,
numbering only 39, of 23,812 tons. During
consequent upon that period, a still greater de-
place in the number of employed whale-ships.
here were only 31 engaged in the trade. In
number was reduced to 59. In 1838, Aber-
n, twenty years before, had sent out 55 ships,
five or six from its port. The decline has
ar within the last two years in other quar-
Island. This unfortunate change—for every
in commerce, generally speaking, must be
fortune—merits some attention.
line of the British northern whale-fisheries
be owing to three principal causes. In the
, the introduction of gas into universal use of
in the island, has materially lessened the de-
whale-oil, and the necessity for its supply. In
d place, the former fishing-fields around
n have been greatly exhausted, and whalers
under the necessity of venturing into more
titudes for the objects of their pursuit. The
e is in a measure a corollary of the preceding
consequence of entering the broken ice of
aits and other similar seas, a loss of life and
as taken place of late years, so extensive and
that mercantile men have become unwilling
ir capital, and seamen their existence, in such
peditions. The great increase of danger is
the fate of the fishing-vessels during the last
as compared with the results of former ones.
ps sent out in 1814, 15, 16, 17, only 8 were lost.
ut of 63 ships sent to Davis' Straits, 10 were
821), out of 79, 11 were lost; in 1822, out of
re lost; and in 1830, not less than 13 out of 87

ceeded in striking the whale at the distance of 350 yards from the verge. It dragged out ten lines (2400 yards), and was supposed to be seen blowing in different holes in the ice. After some time it happened to make its appearance on the exterior, when a harpoon was struck at the moment it was proceeding again beneath. About 100 yards from the edge, it broke the ice where it was a foot in thickness with its crown, and respired through the opening. It then determinately pushed forward, breaking the ice as it advanced, in spite of the lances constantly directed against it. It reached, at length, a kind of basin in the field, where it floated on the surface of the water without any encumbrance from ice. Its back being fairly exposed, the harpoon, struck from the boat on the outside, was observed to be so slightly entangled that it was ready to drop out. Some of the officers lamented this circumstance, and expressed a wish that the harpoon were better fast; observing, at the same time, that if it should slip out, the whale would either be lost or they would be under the necessity of cutting it up where it lay, and of dragging the pieces of blubber over the ice to the ship—a kind and degree of labour which every one was anxious to avoid. No sooner was the wish expressed, and its importance made known, than one of the sailors, a smart and enterprising fellow, stepped forward and volunteered his services to strike it better in. Not at all intimidated by the surprise which was manifested in every countenance by such a bold proposal, he pulled out his pocket-knife, leaped upon the back of the living whale, and immediately cut the harpoon out. Stimulated by this courageous example, one of his companions proceeded to his assistance. While one of them hauled upon the line and held it in his hands, the other set his shoulder against the extremity of the harpoon, and though it was without a stock, he contrived to strike it again into the fish more effectually than it was at first; the fish was in motion before they finished. After they got off its back, it advanced a considerable distance, breaking the ice all the way, and survived this uncommon treatment ten or fifteen minutes. This admirable act was an essential benefit. The fish fortunately sank spontaneously after being killed, on which it was hauled out to the edge of the ice by the line, and secured without further trouble. It proved a stout whale, and an acceptable prize."

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Whalers must also be prepared to meet and combat all the difficulties attending the prosecution of their employment in *storms* and *fogs*. When a gale occurs during a chase, and after a fish has been harpooned, fishers are often obliged to cut the lines and let their prize go. Sometimes this takes place even when the fish is killed, and it is worthy of remark that a whale so abandoned becomes the lawful prize of the ship that first gets hold of it, though this may occur in the face of the original captors. But it is common enough for whalers during a storm to keep a fish secured by a hawser to the ship, and to retain it thus till the return of moderate weather. Few whalers venture to commence fishing while a storm exists, and it is a matter of equal difficulty and uncertainty to fish during a fog. The mist on such occasions is so thick that it possible to see objects, however large, above 100 yards off; and when a boat is led away by the e such a distance that a bell or a horn cannot be its situation becomes very perilous. The only these cases is to make every possible exertion rapid dispatch of the whale, and if this be im cable, to leave it.

Captain Scoresby gives an interesting account plan pursued by himself in *bay-ice fishing*. locked up with his ship in a field of thin bay-i was unfit in many places to bear a man's wei placed a number of boats in various openings existed a short way from the vessel. When a came to these apertures to breathe, it was and the men endeavoured to drown it, when it below the ice, by keeping a steady strain on t If this plan failed, Captain Scoresby planted his a pair of ice-shoes, formed simply of thin deal- to the centre of which the feet were tied, and t boldly crossed the thin ice to the point where, direction of the line, he knew the fish would ri three instances he was fortunate enough to whale through the ice and to plunge his harpo its body, after which he used his lance, till in ea the fish was killed. The fish actually rose twice beneath the very spot where he stood, and through the ice with its head. He was lucky to escape all injury, however, though the ice places could not have borne the weight of a boy ing in common shoes. This kind of bay-ice though successful, will be regarded by most per somewhat daring and hazardous.

Of course, in all these various ways of fishin cumstances now and then occur which set at d all ordinary rules. The whale, for example, struck near the margin of a small floe, is usual in restraint, and killed by the use of the lines f most *two* boats. On the 25th of June 1812, ho a harpooner belonging to the Resolution of W struck a fish close by a small floe, under which appeared. Assistance was quickly given, and a boat's lines were attached to those of the fast-b boat attached to the whale), after which it was the other boatmen, who spread out for a second But in a short time distress signals were made fast-boat, and before aid could be afforded, th were seen to throw themselves into the sea. diately afterwards the bow of the boat sank water, the stern rose in the air, and the whole m cally disappeared. An accidental circumstanc prevented the cutting of the lines. The men picked up, and a search commenced for the wha was ere long seen, and no less than three har each having a boat and its lines attached to it buried in the animal's body. Every one imagin all was now secure beyond risk. Not so, however whale pushed impetuously forward, and soon th of one boat found their lines run out, and were to cut them. The harpoon of another boat was out from the body of the fish, and now one boa remained in connection with the animal. The en still darted forward with the velocity of light, a only pulled out the lines of the remaining boat, bu it fly along like an arrow. At length the line and the whale went off free, with a boat and yards, or about 3¾ English miles, of line behind i obstruction to its progress, caused by the sunken and by the lines also, which weighed 35 cwt., have been immense, yet the whale pushed on unabated vigour. It was pursued, and about *ten* from the spot where it was first struck, it was struck by four harpoons, and yielded at length fate. Calculating the additional lines used at the this fish ran out nearly six miles of lines. Th and 31,200 yards of line were lost. After all, the proved to be one but of the second or third size. the largest are by no means the most difficult, in g to kill.

nsted in their efforts to save him, which they
in doing after having lashed two or three
the stern of the boat, which happened to
ch fractured, as which they placed their help-
adventurer. After they had remained in the
t three-quarters of an hour, assisting them-
flinging to pieces of the wreck, one of the other
ed and took them in, no doubt greatly to
f and satisfaction. But although these brave
rmen had been so defeated, they were not
the moment they entered the boat which took
the ocean, their immediate determination
nother attack upon the immense creature,
ained close by, while the other boat, which
g towards them with all the strength of its
uld still be a quarter of an hour before it
re.

Swain, with twelve men in one boat, there-
another attack upon the whale with the lance,
ed it to throw up blood from the blowhole
d quantities. We, who were on board the
and observed, from a great distance, by means
scope, the whole of the occurrence, were em-
beating the ship towards them, but they were
dward, and the wind being rather light, we
our royal-sails set. Soon after the arrival of
oat, the whale went into its flurry and soon
, to the dismay of the boats' crews, who had
o much danger and hardship in its capture,
d never rose again—an occurrence which is
nfrequent, owing of course to the greater
vity of the individual, perhaps from a greater
ent of bony and muscular structures. Such
dventures of that day, in the evening of which
returned to the ship, worn out and dispirited,
t a favourite boat with the whole of her in-
, besides the last whale wanted to complete
and worth at least £500.

reak, one fine morning in August, as our
was going aloft to look out for whales, he
no less than three ships within a mile of us;
ere situated in various directions. We soon
them to be whalers, who like ourselves were
ter the spermaceti whale, and therefore their
e only had the effect of redoubling our vigi-
he 'look-out,' so that we might, if possible,
, to obtain the best chance if one of those
'hove in sight.' And it was not long before
ge whale made his appearance right in among
The water was smooth at the time, for we
light air of wind stirring, so that our boats
ntly lowered without the loss of time of bring-
hip to.' But although we managed matters
and secretly as possible, we found, the mo-
boats cleared the ship's side, that all the
been as vigilant as ourselves, and had also
eir boats after the whale. The whole of
ediately began the chase—nine boats in all,
e from each ship. They all exerted them-
eir utmost, and, as we expected, in vain; for
of the boats had got even near him, the
animal lifted his widely expanded flukes, and
perpendicularly into the depths of the ocean
Those in the boats, however, having noticed
proceeded onwards, thinking the whale would
o pursue the same direction under water;
was going slowly at the time he was up, they
roceed more than a mile from the place
e descended, before they separated about a
ards from each other, and their 'peaking'
, all the men in each boat stood up, looking
t directions, so as to catch the first appear-
spout when the whale again rose to breathe:
our after his descent had expired, the excite-
ng us who were on board the ship became
to its highest pitch. The captain, who had
on board, ascended to the fore-top-gallant-
atch the manœuvres of the boats, and for the
f the better ordering the signals to them, or

were lost. The mischief has progressively increased. In 1837, the Davis' Straits whale-fleet lost several of its number, and many vessels were locked up in the ice through the winter, to the loss of the greater part of their crews, and at the cost of almost unparalleled sufferings to the petty remnants of them which escaped with life. And while the perils of the trade have thus largely increased, the profits, owing to the greater difficulty of finding whales, have suffered a corresponding decrease. In 1830, 24 out of the 87 vessels sent out to Davis' Straits, returned *clean*. Not a fish was taken by them. In the most of the years that have followed, the majority of the whalers have returned with comparatively paltry freights, and many without a pound of blubber.

The declension, and apparent approaching extinction of the northern whale-fishing, which has so long been an important pillar of our commercial greatness, could not but excite uneasiness and regret in the minds of many persons who have opportunities of making observations on the subject. Accordingly, we find that various plans have been proposed for the revival of this branch of the trade of Britain. Although we conceive that the substitution of gas for oil is one important cause of the decreased ardour for whaling enterprises, and a cause, besides, neither to be deplored nor capable of remedy, and although it also appears to us that the exhaustion of the old whaling fields is another source of the evils complained of, and one only to be affected by time, yet there might, we believe, be plans adopted, which would help at once to restore the lucrative character of the whale fishery, and to alleviate or entirely prevent the misfortunes which have attended its prosecution of late years. The most rational scheme which we have yet chanced to see proposed, is contained in the following extract from the Aberdeen Herald :—

"The plan is simply to establish a settlement of active and enterprising whale fishers on some favourable spot in the vicinity of Davis' Straits, and to employ only so many large vessels as may be necessary to carry out provisions to the colony, and fetch home the oil, blubber, whalebone, and other articles which may be thought worth importing. From all the information that we at present possess, we should think that the most eligible position for the settlement would be at Pond's Bay, or somewhere between that and Lancaster Sound, on the west coast of Baffin's Bay. There are some situations on the north-east shore (Prince Regent's Bay, for example) that might be found suitable; but of late years, the fishers assert that the whales have been most plentiful towards the other shore.

The practicability of carrying such a plan into effect, and the advantages likely to result from it, are the only two points that fall to be noticed here. The testimony of recent travellers, as well as of seamen who have been compelled to winter in the high latitudes, goes to prove the practicability of establishing and maintaining an efficient colony, even as far north as the place we have pointed out. Captain Ross's remark, that 'the temperature of sensation is more relative than is imagined, the body soon contriving to find a new and much lower scale of comfortable or endurable heat,' has been completely verified by all who have visited the Polar regions. The attention now paid to the quality of ship provisions, and the improved methods of preserving them, have not only put a stop to the inroads of scurvy, but have tended materially to increase the comfort of those who choose to lengthen their stay in cold countries. In East Greenland there are several Danish settlements. Holsteinberg, within the Arctic circle, is a small town, with a church and a clergyman; and still higher up, at Lievly, in Disco Island, the chief Danish governor resides. With an ample store of food and clothing, and materials for constructing houses, there can be no doubt that a colony of hardy whalers would contrive to pass the winter agreeably and in comfort. Nor would they be dependent altogether on the supplies carried with them, or procured from the mother country. The musk ox, the reindeer, the white bear, the hare, and a number of other quad would afford them at once sport and a valuable a to their means of sustenance. Birds, too, an fish of various kinds, would not be wanting variety to their repasts; while lobsters, musse other shell-fish, could be had as abundantly as a To avoid all risks of famine, it would be proper always in the settlement provisions for two yea though it could hardly ever happen that the settler be so completely shut up as to be inaccessible dur whole of the summer months.

The advantages of having a numerous body of on the spot, instead of sending them out annual easily be made apparent. 1st, There would be of outlaid capital. For some time past, the shi from Great Britain to Davis' Straits may ha raged 100 each year; and we believe we speak limits when we assert, that the oil and whalebon they have brought home might easily have be ried by one-fifth of the number. Suppose a per colony of 4000 fishers were established at Davis' and 20 of the 100 vessels employed in the o trade, the other 80 vessels might at once be with making a saving of out-laid capital to the exte least £320,000. In this calculation, we take mer cost of the ships, as the boats, harpoons, cas other apparatus, and the provisions included outfit, would all be required in the settlement. fishery would have a better chance of being suc At present it sometimes happens that vessels can into the proper fishing station till the season is advanced that they are under the necessity of ret home without lowering their boats, and this di arises not from the want of open sea within the but from accumulations of ice drifted from the extremity of Baffin's Bay to the Labrador coa settlement of fishers wintering inside, would i cases make a good fishing before the British shi penetrated far up the Straits."

SPERM-WHALE FISHERY.

It is now our purpose to devote some space proceedings in the sperm-whale fishery, a bra maritime enterprise only inferior in importance northern fishery. There is no occasion for des the vessels or apparatus employed, these being in every essential point to those already des Timid as it is, the cachalot often causes such p its convulsive efforts to escape, as render its captu less exciting than that of the mysticetus. Young in particular, frequently give a world of trou their pursuers, and sometimes turn upon them unbounded fury, intent on mischief, and effec both with teeth and tail. The South Sea whaler their northern brethren, have their particular and watchwords in the prosecution of the chase. a whale is seen by the man at the look-out, th bursts from his lips, "There she spouts!" Ins the captain starts on deck, with the responsive mation, "Where away?" An answer is scarcely n for all on board soon perceive the huge animal, ing regularly at intervals of ten seconds, if wi moderate distance. For a half-minute the men gazing, and at every spout the spirited cry breaks from them simultaneously, "There again!" Bu ness is not long the order of the day. The boa lowered, the men rush into them, and soon are p towards the monster, every boat eager to reac first. As they approach, they see him spouting slowly. "Ah, he is going down!—he will be lo is the exclamation. But one boat nears him. more spout (says Mr Beale's animated narrati seen slowly curling forth—it is his last for this ri his back is bent, his enormous tail is expected pear every instant, but the boat shoots rapidly side of the gigantic creature. 'Peak your exclaims the mate, and directly they are flouris the air; the glistening harpoon is seen above th

hale-fisheries of other civilised nations have
e as great vicissitudes as those of Britain.
e year 1600, the Dutch sent out not less than
, manned by 14,000 men, to the northern
In 1828, only one whale-ship sailed from
France has never prosecuted this branch
ren with much activity or success, yet the little
ness done in this way has become still less.
40 French ships were employed in the Green-
. The revolution put a stop to the fishing, and
late years the government has made an attempt
ft, very little success has resulted.
ople of the United States have been more active
eful in whale-fishing than almost any other
recent days. While dependent colonists, they
l in it with great spirit. From 1771 to 1775,
setts employed annually 183 vessels, of 13,839
he northern fishery; and 121 vessels, of 14,026
he fisheries of the south. They were the first
ute the trade in the southern Atlantic, on the
Africa and Brazil; and they, too, led the way
Pacific seas:—"Look at the manner," says
774), "in which the New England people carry
hale fishery. While we follow them among
ling mountains of ice, and behold them perse-
nto the deepest frozen recesses of Hudson's
Davis' Straits; while we are looking for them
he Arctic circle, we hear that they have pierced
pposite region of polar cold; that they are at
ades, and engaged under the frozen serpent of
. Falkland Island, which seemed too remote
umantic an object for the grasp of national
is but a stage and resting-place for their vio-
ndustry. Nor is the equinoctial heat more
ing to them than the accumulated winter of
poles. We learn that, while some of them
line or strike the harpoon on the coast of
thers run the longitude, and pursue their
game along the coast of Brazil." These are
hat are still vexed by the American fisheries,
ve been pushed, however, into higher southern
than had ever before been visited, and are
n from the shores of Japan to the icy rocks of
th Shetland. They have been principally car-
rom Nantucket and New Bedford, and have
ry lucrative. At present they are also prose-
h great success from several other places. One
hips is fitted out for the Pacific in pursuit of
naceti whale. These are from 300 to 500 tons
carrying from 25 to 30 men, and are absent
to 36 months. Their number is about 170, of
,000 tons, and carrying nearly 5000 men.
class sail to the coasts of Africa and Brazil,
of the common or right whale. They average
tons each, carry about 25 men, and are absent
onths. The whole amount of tonnage of this
out 40,000; number of seamen engaged, 3000.
tity of sperm oil brought home in 1815, was
els; in 1820, 34,700; in 1825, 62,240; and,
106,800. The quantity of whale or black oil
in in 1830, was about 115,000 barrels; of
e, about 120,000 pounds. The sperm oil is
ed at home; and 2,500,000 pounds of sperm
re made, employing about 30 manufactories.
le oil and whalebone are chiefly exported to
From the report of the secretary of the treas-
y 4, 1832, it appears that for the year ending
r 30, 1831, there were exported whale and
oil to the value of 554,440 dollars; spermaceti
value of 53,526 dollars; whalebone to the
33,842 dollars; and spermaceti candles to the
17,830 dollars.

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extent of the sufferings sometimes experienced
alers, a single example may be given. The
Aberdeen whaler, sailed for Davis' Straits in
6, and, after many difficulties, was ultimately
d up in the ice, in October of the same year,

working of the ship. All those who were down after the whale, appeared as feverish with anxiety as ourselves, for every now and then they were to be seen shifting their positions a little, thinking to do so with advantage; then they would cease rowing, and stand upon the seats of the boats, and look all round over the smooth surface of the ocean with ardent gaze. But one hour and ten minutes expired before the monster of the deep thought proper to break cover; and when he did, then a rattling chase commenced with the whole of the boats, and they really flew along in fine style, some of them actually appearing to be lifted quite on the surface of the water, from the great power of the rowers; and we had the satisfaction of observing, that our boats were quite equal to the others in the speed with which they were propelled. But it was again a useless task, as the old 'schoolmaster' had outwitted those in the boats, by having gone—while under water—much farther than any of his pursuers had anticipated, and they again had the mortification of witnessing the turning of his flukes as he once more descended into the depths of his vast domain. We now knew to a minute the time that he would remain below, while the people in the boats continued to row slowly onwards the whole time. A fine breeze now sprang up, so that we were enabled to keep company with the boats, keeping a little to windward of them, as the whale was going 'on a wind,' as a seaman would say, meaning that it was blowing across him.

When the hour and ten minutes had again nearly passed, the nine boats were nearly abreast of each other, and not much separated, so that the success of first striking the whale depended very much upon the swiftest boat, especially if the whale came up ahead. We had now all the boats on our 'lee-beam,' while the ships were all astern of us, the most distant not being more than half a mile, so that we enjoyed an excellent view of this most exciting and animated scene. True to his time, the leviathan at length arose right ahead of the boats, and at not more than a quarter of a mile distant from them. The excitement among the crews of the various boats when they saw his first spout was tremendous; they did not shout, but we could hear an agitated murmur from their united voices reverberating along the surface of the deep. They flew over the limpid waves at a rapid rate; the mates of the various boats cheered their respective crews by various urgent exclamations, 'Swing on your oars, my boys, for the honour of the Henrietta,' cried one; 'Spring away, hearties,' shouted another, and yet scarcely able to breathe from anxiety and exertion. 'It's our fish,' vociferated a third, as he passed the rest of his opponents but a trifling distance. 'Lay on, my boys,' cried young Clark, our first mate, as he steered the boat with one hand, and pressed down the after oar with the other. 'She'll be ours yet; let's have a strong pull, a long pull, and a pull altogether,' he exclaimed, as he panted from his exertions at the after oar, which soon brought up his boat quite abreast of the foremost.

But the giant of the ocean, who was only a short distance before them, now appeared rather 'gallied,' or frightened, having probably seen or heard the boats; and as he puffed up his spout to a great height, and reared his enormous head, he increased his speed, and went along quite as fast as the boats, but for only two or three minutes, when he appeared to get perfectly quiet again, while the boats gained rapidly upon him, and were soon close in his 'wake.' 'Stand up,' cried young Clark to the harpooner, who is also the bow-oarsman, while the same order was instantly given by his opponent, whose boat was abreast of our mate's, with the rest close to their sterns. The orders were instantly obeyed, for in a second of time both boat-steerers stood in the bows of their respective boats, with their harpoons held above their heads ready for the dart; but they both panted to be a few yards nearer to the whale, to do so with success. The monster ploughed through the main quickly, but the boats gained upon him every moment, when the agitation of all parties became intense, and a general cry of 'dart! dart from the hindmost boats, who each urged their fearful of delay. The uproar became excessi while the tumult of voices, and the working and ing of the oars, rolled along the surface of t both the harpooners darted their weapons t which, if they had both struck the whale, wo originated a contention between them regardi claims. But, as it happened, neither of them good fortune; for at the moment of their dar harpoons, the whale descended like a shot, and their infliction, leaving nothing but a white-an looking-vortex in the disturbed blue ocean, to spot where his monstrous form so lately floated. huzza burst from the sternmost boats when the issue of this chase, thinking now that anothe awaited them on the next rising of the whale, soon began to separate themselves a little, an onwards again in the course which they though taken. Our captain, feeling irritated at the il of the mate, now ordered his own boat to be intending to make one in the chase himself; as he had parted from the ship, going down leeward, a tremendous shout arose from the our own boats, joined with a loud murmuring rest of the boats' crews; for the whale, no had all its 'spoutings out,' had now risen finish them, and was coming to windward at rate, right towards our ship. The captain favourable situation in a moment, and, passing to the bows of the boat, he stood to waylay h came careering along, throwing his enorm completely out of the water, for he was now q lied.' He soon came, and caught a sight of just as he got within dart; the vast animal rol over in an agony of fear, to alter its course; b too late; the harpoon was hurled with excell and was plunged deeply into his side near the

As the immense creature almost flew out of t from the blow, throwing tons of spray high int showing that he was 'fast,' a triumphant cheer from those in our own boats, as well as from the ship, accompanied by exclamations loud a and not of the most favourable kind to us, fro rest. But onwards they all came, and soon el rendered assistance to complete its destruct which was not done, however, without con difficulty, the whale continuing to descend the either of the boats got nearly within dart of hi after an hour's exertion in this way, six out of boats which were now engaged, got fast to him harpoons, but not one of them could get near to give him a fatal lance; he towed them all in directions for some time, taking care to descen the surface the moment a boat drew up over hi or otherwise drew near, which rendered it alm possible to strike him in the body, even when t was darted, although the after part of his 'sm perforated in a hundred places: from these wo blood gushed in considerable quantities, and as t animal moved along, towing the boats, he left ensanguined stain in the ocean. At last, becomi from his numerous and deep wounds, he beca capable of avoiding his foes, which gave an opp for one of them to pierce him to the life. Dres that moment the acute pain which the leviatha rienced, and which roused the dormant energie gigantic frame. As the life's blood gurgled thick the nostril, the immense creature went into his with excessive fury; the boats were speedily ste while he beat the water in his dying convulsi a force that appeared to shake the firm found the ocean!"

CONCLUDING ANECDOTES AND OBSERVATIONS

Mr Beale continues to remark, in his narrat "numberless stories are told of fighting whale of which, however, are probably much exa accounts of the real occurrences. A large whal

mor Jack,' is the hero of many strange stories, such of his destroying every boat which was sent out inst him, until a contrivance was made by lashing arrel to the end of the harpoon with which he was uck, and whilst his attention was directed and divided ongst several boats, means were found of giving him death-wound.

In the year 1804, the ship 'Adonis,' being in comny with several others, struck a large whale off the st of New Zealand, which 'stove' or destroyed nine ats before breakfast, and the chase consequently was essarily given up. After destroying boats belonging many ships, this whale was at last captured, and ny harpoons of the various ships that had from time time been sent out against him were found sticking his body. This whale was called 'New Zealand Tom,' d the tradition is carefully preserved by whalers.

Accidents of the most fearful nature have frequently urred in this hazardous pursuit, which to enumerate uld fill the space of volumes; for not only boats, but metimes even ships, have been destroyed by these werful creatures. It is a well authenticated fact, at an American whale-ship called the 'Essex' was stroyed in the South Pacific Ocean by an enormous erm whale. While the greater part of the crew were ay in the boats pursuing whales, the few people reining on board saw an immense sperm whale come close to the ship, and when very near, he appeared go down for the purpose of avoiding the vessel, and doing so he struck his body against some part of the el, which was broken off by the force of the blow, and ated to the surface; the whale was then observed to e a short distance from the ship, and come with aprently great fury towards it, striking against one of bows with his head, and completely 'staving' it in. e ship of course immediately filled, and fell over on r side, in which dreadful position the poor fellows in boats soon espied their only home, being distant m the nearest land many hundred miles; on returng to the wreck, they found the few who had been left board hastily congregated in a remaining whale-boat, o which they had scarcely time to take refuge before e vessel capsized. They with much difficulty obtained scanty supply of provisions from the wreck, their only pport on the long and dreary passage before them the coast of Peru, to which they endeavoured to ake the best of their way. One boat was fortunately und by a vessel not far from the coast; in it were the ly survivors of the unfortunate crew, three in number, the remainder having perished under unheard-of ffering and privation. These three men were in a ate of stupefaction, allowing their boat to drift about here the winds and waves listed; one of these survors was the master; by kind and careful attention n the part of their deliverers, they were eventually atched from the jaws of death to relate the melancholy le."

Not being attended with the dangers to which a orthern climate exposes the hunters of the mysticetus, he sperm-whalers of Britain have greatly increased in mbers of late years, and at this day the fishing is xecuted with great success. As in the case of the reenland fishery, bounties were given up to 1821, hen the trade was fairly left to private enterprise. n 1791, the sperm-oil imported into Britain amounted 1258 tons; in 1827, 5552 tons were imported; and 1836, the amount was 7001 tons. One good whale will ld forty barrels of oil, and ten barrels of spermaceti e frequently taken from one head. About ten large rrels make a ton. Both sperm-oil and spermaceti ar a high price in the market, and are of great utility various respects. There is little chance of a decline the sperm-whale branch of our maritime traffic, not ly because the fishing latitudes are comparatively e from dangers, but because the invention of gas s not trench on the use of sperm-oil as it did on that the Greenland oil, and because spermaceti and rm oil are likely to be more and more employed as country progresses in civilisation.

FOREIGN WHALE-FISHERIES.

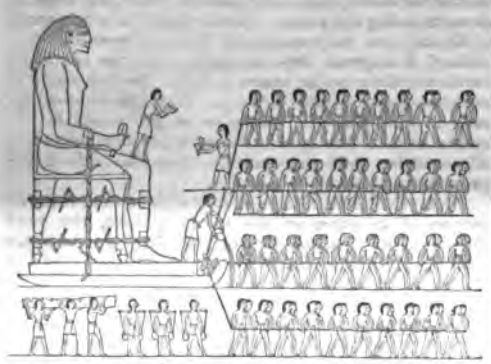
The whale-fisheries of other civilised nations have undergone as great vicissitudes as those of Britain. About the year 1680, the Dutch sent out not less than 260 ships, manned by 14,000 men, to the northern fishery. In 1828, only one whale-ship sailed from Holland! France has never prosecuted this branch of commerce with much activity or success, yet the little that was once done in this way has become still less. In 1790, 40 French ships were employed in the Greenland seas. The revolution put a stop to the fishing, and though of late years the government has made an attempt to revive it, very little success has resulted.

The people of the United States have been more active and successful in whale-fishing than almost any other nation in recent days. While dependent colonists, they embarked in it with great spirit. From 1771 to 1775, Massachusetts employed annually 183 vessels, of 13,820 tons, in the northern fishery; and 121 vessels, of 14,026 tons, in the fisheries of the south. They were the first to prosecute the trade in the southern Atlantic, on the coasts of Africa and Brazil; and they, too, led the way into the Pacific seas:—"Look at the manner," says Burke (1774), "in which the New England people carry on the whale fishery. While we follow them among the tumbling mountains of ice, and behold them penetrating into the deepest frozen recesses of Hudson's Bay and Davis' Straits; while we are looking for them beneath the Arctic circle, we hear that they have pierced into the opposite region of polar cold; that they are at the antipodes, and engaged under the frozen serpent of the south. Falkland Island, which seemed too remote and too romantic an object for the grasp of national ambition, is but a stage and resting-place for their victorious industry. Nor is the equinoctial heat more discouraging to them than the accumulated winter of both the poles. We learn that, while some of them draw the line or strike the harpoon on the coast of Africa, others run the longitude, and pursue their gigantic game along the coast of Brazil." These are the seas that are still vexed by the American fisheries, which have been pushed, however, into higher southern latitudes than had ever before been visited, and are carried on from the shores of Japan to the icy rocks of New South Shetland. They have been principally carried on from Nantucket and New Bedford, and have proved very lucrative. At present they are also prosecuted with great success from several other places. One class of ships is fitted out for the Pacific in pursuit of the spermaceti whale. These are from 300 to 500 tons burden, carrying from 25 to 30 men, and are absent about 30 to 36 months. Their number is about 170, of about 62,000 tons, and carrying nearly 5000 men. Another class sail to the coasts of Africa and Brazil, in search of the common or right whale. They average about 325 tons each, carry about 25 men, and are absent 8 to 12 months. The whole amount of tonnage of this class is about 40,000; number of seamen engaged, 3000. The quantity of sperm oil brought home in 1815, was 3944 barrels; in 1820, 34,700; in 1825, 62,240; and, in 1830, 106,800. The quantity of whale or black oil brought in in 1830, was about 115,000 barrels; of whalebone, about 120,000 pounds. The sperm oil is chiefly used at home; and 2,500,000 pounds of sperm candles are made, employing about 30 manufactories. The whale oil and whalebone are chiefly exported to Europe. From the report of the secretary of the treasury, May 4, 1832, it appears that for the year ending September 30, 1831, there were exported whale and other fish oil to the value of 554,440 dollars; spermaceti oil to the value of 53,526 dollars; whalebone to the value of 133,842 dollars; and spermaceti candles to the value of 217,830 dollars.

Of the extent of the sufferings sometimes experienced by the whalers, a single example may be given. The Dee, an Aberdeen whaler, sailed for Davis' Straits in April 1836, and, after many difficulties, was ultimately fast locked up in the ice, in October of the same year,

a sort of umbrella, fixed upon a rod rising from the centre or back of the car; the reins were the same as those used for horses, and apparently furnished with a bit; and besides the driver, a groom sometimes attended on foot, at the head of the animals, perhaps feeding them as they went. The annexed wood engraving represents an Ethiopian princess, who is on her journey through Upper Egypt to Thebes, where the court then resided. The plaustra are called in Genesis *waggons;* they were commonly used in Egypt for travelling. Besides the plaustrum, they had a sort of palanquin, and a canopy or framework, answering the purpose of a sedan-chair, in which they sometimes sat or stood, in their open pleasure-boats, or in situations where they wished to avoid the sun."

From the researches of Mr Wilkinson, we are enabled to form some estimate of the enormous trouble incurred by the ancient Egyptians in the transport of the heavy stones which they employed in building their temples. Some of these stones weighed 5000 tons, and were usually conveyed from the quarries from which they were cut in flat-bottomed boats, on canals made for the purpose. Occasionally, however, when this mode of transport was unsuitable, the stone was drawn on sledges, perhaps some hundreds of miles, by oxen or by human labour. The accompanying woodcut represents, in an abridged form, the mode of conveying colossal figures in stone from the quarries to the temples in which they were to be set up. "One hundred and seventy-two men,



in four rows of forty-three each [we represent only as far as twenty each row], pull the ropes attached to the front of the sledge; and a liquid, probably grease, is poured from a vase by a person standing on the pedestal of the statue, in order to facilitate its progress as it slides over the ground, which was probably covered with a bed of planks, though they are not indicated in the painting. Some of the persons employed in this laborious duty appear to be Egyptians, the others are foreign slaves, who are clad in the costume of their country. Below are persons carrying vases of the liquid, or perhaps water, for the use of the workmen, and some implements connected with the transport of the statue, followed by taskmasters with their wands of office [but which we have not had space to include]. On the knee of the figure stands a man who claps his hands to the measured cadence of a song, to mark the time, and ensure their simultaneous draught. The height of the statue appears to have been about twenty-four feet, including the pedestal. It was bound to the sledge by ropes, which were tightened by means of pegs inserted between them, and twisted round until completely braced; and to prevent injury from the friction of the ropes upon the stone, a compress of leather or other substance was introduced at the part *where they* touched the statue." It may be added, that *the representation is* constructed without any reference *to perspective, which* was not understood by the ancient *Egyptian delineators.* Besides the great number of persons employed in drawing these huge blocks, it was customary for a band of some hundreds of soldiers to attend, perhaps for the purpose of overawing the and compelling obedience to their odious task. A degrading means of mechanical conveyance it we impossible to represent.

Conveyance by Camels.—From the earliest tim camel, in its two varieties of camel and drome has been employed in the sandy regions of As beast of burden; and without its invaluable serv this respect, these countries could scarcely hav habitable. In the sacred writings we find fr notices of the camel in connexion with comm transport. The brethren of Joseph having ca into a pit, "they sat down to eat bread; an lifted up their eyes and looked, and behold a co of Ishmaelites came from Gilead, with their bearing spicery, and balm, and myrrh, going to it down into Egypt." Thus the camel forme engine of carriage among the merchants of A and conveyed the products of India across the d to the populous and wealthy land of Egypt.

The camel is expressly suited by nature for in ing and traversing sandy and parched deserts, in there are places of rest and refreshment only at r distances. "It is the most temperate of all an and can continue to travel several days without ing. In those vast deserts, where the earth is where dry and sandy—where there are neither nor beasts, neither insects nor vegetables—whe thing is to be seen but hills of sand and hea bones, there the camel travels, posting forward, out requiring either drink or pasture, and is often six or seven days without any sustenance whats Its feet are formed for travelling upon sand, and u unfit for moist or marshy places; the inhabitants, fore, find a most useful assistant in this animal, no other could subsist, and by its means, cross deserts with safety, which would be impassable b other method of conveyance.

An animal thus formed for a sandy and dese gion, cannot be propagated in one of a different n Many vain efforts have been tried to propaga camel in Spain and America, but they have mult in neither of these countries. It is true, indeed they may be brought into both countries, and perhaps be found to produce there; but the ex keeping them is so great, and the accidents to they are exposed, from the changeableness of th mate, are so many, that they do not reward the e keeping. In a few years, also, they are seen to nerate; their strength and their patience forsake and, instead of making the riches, they become th den of their keepers.

The camel is easily instructed in the methods ing up and supporting his burden; their legs, days after they are produced, are bent under their they are in this manner loaded, and taught to rise burden is every day thus increased, by insensi grees, till the animal is capable of supporting a adequate to its force. The same care is taken in ing them patient of hunger and thirst: while animals receive their food at stated times, the ca restrained for days together, and these intervals mine are increased in proportion as the animal capable of sustaining them. By this method of tion, they live five or six days without food or and their stomach is formed most admirably by to fit them for long abstinence. Besides the stomachs which all animals have that chew th (and the camel is of the number), it has a fifth sto which serves as a reservoir to hold a greater qu of water than the animal has an immediate oc for. It is of a sufficient capacity to contain a quantity of water, where the fluid remains without rupting, or without being adulterated by the oth ments: when the camel finds itself pressed with

* The only essential difference between the two varie that the camel has two hunches and the dromedary o there are mixed breeds between them.

NCE.

To the north there is a range of bare hills, and at
ir bases are patches of green; the rude tents of a
be of Bedouins are pitched, and their cattle enliven
scene. We passed over a perfect level this morn-
, strewed with flowers, and thick with pasture for
camels, where we are now resting. It is not usual
re, as in many parts of the east, for the camels to
nd in long strings, one after the other. Our numbers,
mounting to fifteen hundred, are scattered over the
rface in all directions, as far as the eye can trace.
In travelling, the sheiks or chiefs of the caravan,
ended by the military part of their equipage, mounted
dromedaries, move in advance, while the loaded
mels follow at some distance, in parallel masses,
ening out, or changing the form, as the grass ren-
rs it necessary. They fall so naturally into military
ares, that it is difficult to conceive their doing it
thout direction.
We have several tents in the caravan. They are
ched so as to permit the camels belonging to each to
in the intervals, where they are placed in squads for
e night. They are by no means agreeable neighbours;
, although they are not able to move from their
ce, they make a most unpleasant gurgling noise: the
les of the merchants always form the windward de-
nce, for the tents have no sides to them, and but
tter over the goods to keep the sun from their
ners.
At the usual hours of prayer, a loud call is heard
roughout the camp, and parties flock to where the
nezzin takes his stand. At sunset, as the camels
aw in from the pasture, all the Arabs are on their
ees, in a line of two or three hundred, in two ranks.
he priest, like a fugleman, in front, gives the time for
wing their heads, and performing the rest of the
joined ceremonies. As they rise on the signal, they
ik again to their knees, and press their foreheads to
e earth with the utmost devotion: the scene is sin-
larly impressive.
The rate at which a loaded camel travels is estimated
two miles and a-half an hour by almost every tra-
ller. Our caravan has not, I think, exceeded this;
t the variety of its movements has been very gre-
me. The Arab drivers, who walk in front of the
imals, never miss an opportunity of a piece of pasture;
t, however distant it may be from the proper course,
ad them towards it, and, with the short sticks they
rry, beat them into the thickest part of it. The
mels are anxious enough for the matter themselves,
d huddle so together that their riders' legs are in
derable danger of being crushed in the contact.
There is so strong a resemblance to a voyage at sea
a passage across the desert, that I cannot divest
yself of the belief that the moving mass is but a col-
ction of small vessels, carried into a heap by the tide.
very man is ready with his stick to fend off the ani-
al that approaches him; one push separates the
mels as it would separate a couple of boats; and the
mels move away, quite unconscious of the circum-
ance, till another movement swings them together
gain."

TRAVELLING IN PAST TIMES IN BRITAIN.

The modes of travelling and conveyance generally,
ere of a comparatively rude and primitive kind in
ritain till the latter part of the seventeenth century;
nd any thing like comfortable and quick travelling
annot be said to have been known till a century later,
hen mail-coaching was introduced. In old times,
eople of a humble rank travelled only on foot, and
hose of a higher station on horseback. Noblemen and
entlemen, as much for ostentation as use, kept run-
ing footmen—a class of servants active in limb, who
an before them on a journey, or went upon errands
f special import. The pedestrian powers of these fel-
ows were often surprising. For instance, in the Duke
f Lauderdale's house at Thirlstane, near Lauder,
he table-cloth being one morning laid for a
dinner-party, it was discovered that there was a

little piece of ground, which to this day bears the name of the *Post Rig*—a term equivalent to the postman's field, and an unquestionable proof, as all the villagers at Hume devoutly believe, of the truth of the anecdote. The custom of keeping a running footman did not cease amongst noble families in Scotland till the middle of the last century. The Earl of March, father to the late Duke of Queensberry, and who lived at Neidpath Castle near Peebles, had one named John Mann, who used to run in front of the carriage, with a long staff. In the head of the staff there was a recess for a hard-boiled egg, such being the only food taken by Mann during a long journey.

When the matter of communication was of particular importance, or required to be dispatched to a considerable distance, horsemen were employed; and these, by means of relays of fresh animals and great toil of body, would proceed journeys of some hundreds of miles to accomplish what would now be much better done by a post letter. Some journeys performed on horseback in former days would be considered wonderful even in modern times with good roads. Queen Elizabeth died at one o'clock of the morning of Thursday the 24th of March 1603. Between nine and ten, Sir Robert Carey left London (after having been up all night), for the purpose of conveying the intelligence to her successor James, at Edinburgh. That night he rode to Doncaster, a hundred and fifty-five miles. Next night he reached Witherington, near Morpeth. Early on Saturday morning he proceeded by Norham across the Border; and that evening, at no late hour, kneeled beside the king's bed at Holyrood, and saluted him as King of England, France, and Ireland. He had thus travelled four hundred miles in three days, resting during the two intermediate nights. But it must not be supposed that speed like this was attained on all occasions. At the commencement of the religious troubles in the reign of Charles I., when matters of the utmost importance were debated between the king and his northern subjects, it uniformly appears that a communication from Edinburgh to London, however pressing might be the occasion, was not answered in less than a fortnight. The crowds of nobles, clergymen, gentlemen, and burghers, who at that time assembled in Edinburgh to concert measures for opposing the

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occasion for. For when they rode on horsel
rode in one suit, and carried another to w

ICE.

, confined chiefly to the great lines of road in Eng-
l. On all the less important routes, and particularly
Scotland, the only means of conveyance for goods
by pack-horses. These animals were loaded with

ks thrown across the back; and, if not too heavy,
d to a considerable height. A number together
re generally conducted in a line along the narrow
l badly constructed paths, that which went before
rying a bell, by the tinkling sound of which the
cade was kept from straggling after nightfall. This
eedingly rude mode of conveyance continued in
ration in some parts of the country till the year
0, or thereabouts, when one-horse carts came into
.

The old-fashioned waggons still remain in use in
gland, notwithstanding the numerous improvements
modes of conveyance and locomotion. They are
efly employed for the carriage of goods between the
tropolis and country towns which are at a distance
m any line of canal or railroad. A waggon of this
d is provided with four broad and huge wheels, and
drawn by six large horses, the driver usually riding
a separate small pony. The waggons employed in

ndon to convey coal from the wharfs to the houses
consumers, or beer from brewers, are of the same
wieldy form, and are drawn with a needless expen-
ture of power.

The length of time consumed in journeys by even
e best kind of carriages of past times, is now matter
r surprise. The stage-coach which went between
ndon and Oxford in the reign of Charles II., re-
ired two days, though the space is only fifty-eight
les. That to Exeter (168¼ miles) required four days.
1703, when Prince George of Denmark went from
indsor to Petworth to meet Charles III. of Spain,
e distance being about forty miles, he required four-
en hours for the journey, the last nine miles taking
x. The person who records this fact, says, that the
ng time was the more surprising, as, *except when
erturned*, or when stuck fast in the mire, his royal
ghness made no stop during the journey.

In 1742, stage-coaches must have been more nume-
us in England than in Charles II.'s time; but it does
t appear that they moved any faster. The journey
om London to Birmingham (116 miles) then occupied
arly three days, as appears from the following adver-
sement:—"The Litchfield and Birmingham stage-
oach set out this morning (Monday, April 12, 1742),
om the Rose Inn, Holborn Bridge, London, and will
e at the Angel, and the Hen and Chickens, in the
igh Town, Birmingham, on Wednesday next, to dine
er; and goes the same afternoon to Litchfield."

ciency of silver spoons. Instantly the footman was sent off to the duke's other seat of Lethington, near Haddington, fully seventeen miles off, and across hills and moors, for a supply of the necessary article. He returned with a bundle of spoons, in time for dinner. Again—at Hume Castle in Berwickshire, the Earl of Home had one night given his footman a commission to proceed to Edinburgh (thirty-five miles off), in order to deliver a message of high political consequence. Next morning early, when his lordship entered the hall, he saw the man sleeping on a bench, and conceiving that he had neglected his duty, was about to commit some rash act, when the poor fellow awoke, and informed Lord Home that his commission had been executed, and that, having returned before his lordship was stirring, he had only taken leave to rest himself a little. The earl, equally astonished and gratified by the activity of his faithful vassal, rewarded him with a little piece of ground, which to this day bears the name of the *Post Rig*—a term equivalent to the post-man's field, and an unquestionable proof, as all the villagers at Hume devoutly believe, of the truth of the anecdote. The custom of keeping a running footman did not cease amongst noble families in Scotland till the middle of the last century. The Earl of March, father to the late Duke of Queensberry, and who lived at Neidpath Castle near Peebles, had one named John Mann, who used to run in front of the carriage, with a long staff. In the head of the staff there was a recess for a hard-boiled egg, such being the only food taken by Mann during a long journey.

When the matter of communication was of particular importance, or required to be dispatched to a considerable distance, horsemen were employed; and these, by means of relays of fresh animals and great toil of body, would proceed journeys of some hundreds of miles to accomplish what would now be much better done by a post letter. Some journeys performed on horseback in former days would be considered wonderful even in modern times with good roads. Queen Elizabeth died at one o'clock of the morning of Thursday the 24th of March 1603. Between nine and ten, Sir Robert Carey left London (after having been up all night), for the purpose of conveying the intelligence to her successor James, at Edinburgh. That night he rode to Doncaster, a hundred and fifty-five miles. Next night he reached Witherington, near Morpeth. Early on Saturday morning he proceeded by Norham across the Border; and that evening, at no late hour, kneeled beside the king's bed at Holyrood, and saluted him as King of England, France, and Ireland. He had thus travelled four hundred miles in three days, resting during the two intermediate nights. But it must not be supposed that speed like this was attained on all occasions. At the commencement of the religious troubles in the reign of Charles I., when matters of the utmost importance were debated between the king and his northern subjects, it uniformly appears that a communication from Edinburgh to London, however pressing might be the occasion, was not answered in less than a fortnight. The crowds of nobles, clergymen, gentlemen, and burghers, who at that time assembled in Edinburgh to concert measures for opposing the designs of the court, always dispersed back to their homes after dispatching a message to King Charles, and assembled again a fortnight thereafter, in order to receive the reply, and take such measures as it might call for. And even till the last century was pretty far advanced, the ordinary riding post between London and Edinburgh regularly took a week to the journey.

In consequence of the inattention of our ancestors to roads, and the wretched state in which these were usually kept, it was long before coaching of any kind came much into fashion. Though wheeled vehicles of various kinds were in use among the ancients, the close carriage or coach is of modern invention. The word *coach* is Hungarian, and the vehicle itself is supposed to have originated in Hungary. Germany certainly appears to have taken the precedence of the nations of Western Europe in using coaches. They were introduced thence into England some time in the sixteenth century, but were, after all, so little in vogue throughout the whole reign of Elizabeth, that there is record of her having ever used one. Lord Grey de Wilton, who died in 1593, introduced a coach into Ireland, the first ever used in that country. One was introduced into Scotland—we rather think from France—about the year 1571. It belonged to the famous Secretary Maitland of Lethington, who, during the horrid civil war between the adherents of Mary and those of her son James, made a journey in that vehicle from Edinburgh Castle, which he was holding out for the queen, to Linlithgow in West Lothian, for the purpose of holding a consultation with some others of her friends—the only time, it is believed, that a close carriage was ever seen in Scotland. Fynes Morison, who wrote in the year 1617, speaks of coaches as recently introduced, and still rare in Scotland. For a long time, these conveyances were only used by old people, who could not ride on riding. The young and active despised them, according to effeminacy, and as not being so quick of movement as the horse. The Duke of Buckingham, who first used a coach with six horses—a piece of state which the Duke of Northumberland thought proper to ridicule by setting up one with eight. Charles I. was the first British sovereign who had a state coach. Although Henri IV. was killed in a coach—the only one, by the way, he possessed—his ordinary way of appearing in the streets of Paris was on horseback, with a large cloak strapped on behind, to be used in case of rain. In Scotland, previous to the time of the civil war, coaches were only used by persons high in state. It is very curious to find that the same kind of complaints now made by persons interested in opposing respecting the introduction of steam-locomotives were made when coaches were introduced. Taylor, the water-poet, complains, in the reign of Charles I., that large retinues of men were now given up by the nobility since they had begun to use coaches. Ten, twenty, thirty, fifty, yea a hundred proper serving men, were transformed, he says, into two or three animals. The old-wifical thinkers of that day were as much concerned about the fate of the discharged men-servants, as twaddlers of the present are distressed about the fate of less horses. It is further very amusing to find Taylor in his antipathy to coaches, complaining that coach-drivers were all of them hard drinkers.

In a pamphlet called the "Grand Concern of England Explained," published in 1673, the writer gravely attempts to make out that the introduction of coaches was ruining the trade of England. The following is an example of his mode of reasoning: "Before the coaches were set up, travellers rode on horseback, and men had boots, spurs, saddles, bridles, saddle-cloths, and good riding-suits, coats and cloaks, stockings and hats, whereby the wool and leather of the kingdom were consumed. Besides, most gentlemen when they travelled on horseback used to be with swords, belts, pistols, holsters, portmanteaus, and hat-cases, which in these coaches they have little occasion for. For when they rode on horseback they rode in one suit, and carried another to wear when they came to their journey's end, or lay by the way; but in coaches they ride in a silk suit, with an embroidered gown, with a sash, silk stockings, and the beaver that men ride in, and carry no other with them. Besides, because they escape the wet and dirt which on horseback they cannot avoid; whereas in two or three journeys on horseback, these clothes and hats were quite ruined, to be spoiled; which done, they were forced to buy new very often, and that increased the consumption of manufacture. If they were women that travelled, they used to have safeguards and hoods, side-saddles and pillions, with strappings, saddle or pillion cloths, which, for the most part, were laced and embroidered; to the making of which there went many several trades, now ruined." But the writer has other reasons against coach travelling. "Those who travel

observes, "become weary and listless when
few miles, unwilling to get on horseback,
to endure frost, snow, or rain, or to lodge
." Besides, he asks "what advantage it
man's health to be called out of bed into
s an hour or two before day in the morn-
urried in them from place to place till one,
e hours within night; insomuch that, after
ay, in the summer time, stifled with heat
with dust—or in the winter time, starving
with cold, or choked with filthy fogs, they
ought into their inns by torch-light, when
to sit up to get supper, and next morning
ceed into the coach so early that they can
fast? What addition is it to men's health
to ride all day with strangers, oftentimes
, diseased persons, or young children cry-
se humours he is obliged to put up with,
poisoned with their nasty scents, and crippled
and bundles? Is it for a man's health *to
in the foul ways, and forced to wade up to
mire; afterwards* sit in the cold till teams
n be sent to pull the coach out? Is it for
to travel in rotten coaches, and to have
, or perch, or axle-tree broken; and then
e or four hours (sometimes half the day),
rds to travel all night to make good their

wever, do not exhaust the patriotic clamours
r against the odious innovation of stage-
He says that the practice "discourages the
rses," an argument which it is amusing to
s also been used in opposition to the intro-
railways in recent times. In certain very
umstances, he allows, stage-coaching might
d, but in no other. "If some few stage-
e continued, to wit, one to every shire-town
, to go once a-week backward and forward,
hrough with the same horses they set forth
not travel above thirty miles a-day in the
nd twenty-five in the winter, and to shift
journey, that so trade might be diffused—
l be sufficient to carry the sick and the lame,
pretend cannot travel on horseback; and,
regulated, they would do little or no harm;
f all be suppressed within fifty miles of Lon-
they are no way necessary, and yet so highly
."

e thought fit to introduce these extracts here,
ch for the purpose of amusing our readers
absurdity, as to afford a caution to the gene-
nts of improvement. Arguments of a simi-
l nature are now used in reference to almost
osed melioration in our social condition, and
less, in a century hence, be quoted for their
d folly, though at present meeting with coun-
m a large class in the community.

standing the introduction of stage-coaches in
eenth century, they were placed only on the
oads, and used almost exclusively by persons
taste and wealth. The popular mode of con-
ntinued for at least a century afterwards to
e-waggons; these were very large and cum-
achines, drawn by six or eight horses, and
iefly to the carriage of goods to and from
polis. The only part of the vehicle which
ccommodation to passengers, was the tail of
n, as it was called, a reserved space with a
cover at the hinder part of the machine; and
ng upon straw as they best could, some half-
sengers were slowly conveyed on their jour-
chance attacks of highwaymen, and other
hich occurred to the occupants of the waggon,
adventures at the inns where they slept for
are graphically described by Smollett in his
oderick Random, and will be in the recollec-
st of our readers.

ggons thus employed in the double office of
both goods and passengers, were, as we have said, confined chiefly to the great lines of road in England. On all the less important routes, and particularly in Scotland, the only means of conveyance for goods was by pack-horses. These animals were loaded with

sacks thrown across the back; and, if not too heavy, piled to a considerable height. A number together were generally conducted in a line along the narrow and badly constructed paths, that which went before carrying a bell, by the tinkling sound of which the cavalcade was kept from straggling after nightfall. This exceedingly rude mode of conveyance continued in operation in some parts of the country till the year 1780, or thereabouts, when one-horse carts came into use.

The old-fashioned waggons still remain in use in England, notwithstanding the numerous improvements in modes of conveyance and locomotion. They are chiefly employed for the carriage of goods between the metropolis and country towns which are at a distance from any line of canal or railroad. A waggon of this kind is provided with four broad and huge wheels, and is drawn by six large horses, the driver usually riding on a separate small pony. The waggons employed in

London to convey coal from the wharfs to the houses of consumers, or beer from brewers, are of the same unwieldy form, and are drawn with a needless expenditure of power.

The length of time consumed in journeys by even the best kind of carriages of past times, is now matter for surprise. The stage-coach which went between London and Oxford in the reign of Charles II., required two days, though the space is only fifty-eight miles. That to Exeter (168¼ miles) required four days. In 1703, when Prince George of Denmark went from Windsor to Petworth to meet Charles III. of Spain, the distance being about forty miles, he required fourteen hours for the journey, the last nine miles taking six. The person who records this fact, says, that the long time was the more surprising, as, *except when overturned*, or when stuck fast in the mire, his royal highness made no stop during the journey.

In 1742, stage-coaches must have been more numerous in England than in Charles II.'s time; but it does not appear that they moved any faster. The journey from London to Birmingham (116 miles) then occupied nearly three days, as appears from the following advertisement:—"The Litchfield and Birmingham stage-coach set out this morning (Monday, April 12, 1742), from the Rose Inn, Holborn Bridge, London, and will be at the Angel, and the Hen and Chickens, in the High Town, Birmingham, on Wednesday next, to dinner; and goes the same afternoon to Litchfield. It

to every ear—*Macadamised.*

In introducing this improvement into British roads, Mr M'Adam had spent several thousand pounds from his own resources. In 1825, he proved this expenditure before a committee of the House of Commons, when an equivalent sum was voted to him, besides an honorary tribute of two thousand pounds, in consideration of the public benefits resulting from his labours. The inadequacy of this remuneration is very striking; and it is impossible to avoid contrasting it, in some bitterness of spirit, with the ratio in which services of other and less beneficial kinds are usually acknowledged. Many a lieutenant, in being promoted to a captaincy for some little display of personal bravery, has reaped nearly as valuable a reward as that bestowed upon Mr M'Adam for bringing into operation a mechanical improvement, the consequences of which, in saving animal labour, facilitating commercial intercourse, and rendering travelling easy, quiet, and pleasant, are beyond all calculation. Though the remuneration was thus small, and never, as we have been informed, fully paid, Mr M'Adam would have been the last to complain of it. He never made money an object, but, on the contrary, rejected on principle many opportunities of gathering wealth, which his office as a superintendant opened up to him, and which many men of by no means blunt feelings as to professional propriety would have taken advantage of. He therefore died a poor, but, as he frequently expressed himself, "at least an honest man." Mr M'Adam's decease took place, November 26, 1836, at Moffat. He was in the 81st year of his age.

According to the principles of road-making, as laid down and consistently acted upon by Mr M'Adam, a road ought to be an artificial and hard flooring, placed on a level and dry surface. To make a good road, therefore, we must in the first place level and prepare the ground. If the ground be soft, as, for instance, have a covering of turf and earthy matter beneath, the top must be pared off, and as much earth removed as will produce a hardish base. In some instances, it may be necessary to excavate, and fill up the gap with compact and substantial materials; but should this be the case, the materials used must on no account include any large stones, or be otherwise unequal in their nature: The principles on which the road should be made are thus alluded to by Mr M'Adam:—"Roads can never be heavily loaded vehicle, but will sustain as and wear as any other portion of the highv

The width of the road is a matter of ta venience, but it should not be less than feet, to allow a free passage of vehicles directions. On all the good roads in Bi towns, a side footpath protected by a cu added to the ordinary breadth. "With re shape of the surface of the road, when comp is also some difference of opinion; but all it should be convex, the only difference b quantity. The degree of convexity should l in a great degree by the locality. A roa soft materials should have a greater convex formed of hard materials; for the obvious water will injure a soft road quicker than A road upon uneven ground should have a vexity than one upon level ground, to prev scent of rain-water along the face of the is there caught by the slightest impressions and thus wear channels, as may too often be the top to the bottom of the hill. A wid requires to be more crowning than a nar which more readily frees itself from rain-w much as the distance the water has to run i it must be borne in mind, that the freeing rain-water is not the only object to be kept making a road crowning. The ease and sa riages, and particularly those with heavy with high loads, must be consulted. A carr most freely, or with the least resistance, wh lies evenly upon the wheels. Just in propo weight or load is thrown on one side or the resistance is increased. Hence the inconve very crowning road on a steep; and hence t bars or breaks in long ascents. It is plain t should be equally and duly convex in every otherwise it becomes more partially worn level parts being most used.

When a road is carried round a hill inste directly over it, or when a road is made on it should not be made convex from the mi should be formed like half of a common ro highest part on the upper side, thus giving tendency to run off on the lower side. recommends the least possible convexity con

y as when accompanied with much traffic. The
ers on the surface, and softening the material,
on of the horses' feet and of the wheels causes
n depth of thin liquid mud. This mud should,
ssible, be scraped off to a side, for the longer it
e stratum beneath is the more liable to be cut
damaged. The scraping of the roads, therefore,
s an essential duty of all who are interested in
ing the highways economically in repair. When
d which is scraped aside thickens by exposure,
d be carted off, and may be employed on many
a useful manure. Besides containing a propor-
refuse from horses, it is loaded with particles
from wheels and horse shoes; and being sub-
ly silica or ground stone, it may be administered
ecial advantage to heavy clay grounds.
s exposed to much traffic require to be renewed
ace at least once a-year. The first indications
y are observable in the form of slight hollows,
s next make their appearance. In some cases,
the decay is only partial, a small quantity of
may be scattered in the hollows, bringing them
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ie on well-kept roads near large towns. There
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airing roads is about November, or before the
frost and snow set in. In commencing the re-
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or fifteen inches. This is done by men, each
a pick by which he indents the hard bottom,
s scores an inch deep in the road. The use of
preliminary process, is to cause a ready union
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cattered over the old road, without any prepa-
it would with difficulty unite to the substratum,
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ire duty to a contractor. This person, by under-
to keep all the roads in a county or district
stant and uniform repair, is able to execute his
ns much more economically than the private
men who act as trustees of the highways and
ies. The trustees appointed by local acts of par-
t to superintend highways, now generally employ
ctors to keep the roads in repair at a specified
per mile, the payment being made from funds
d from the lessees of the toll-bars.
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id. Gates are now substituted for these poles in Great
. In Germany, the pole is still used, one end being de-
to raise the other, and so permit a free passage.

law is always in favour of the party who kept his own proper side, and no excuse can shelter the aggressor. The trustees of the road are liable in an action of damages for any injury that may be sustained through the carelessness of themselves or servants, in leaving the road grossly out of repair.

According to a well-known rule, foot passengers on pavements or side-paths, are expected to walk with their right hand to the wall—that is, they keep their left hand to those whom they are meeting and passing. This custom prevents confusion in the streets of large towns, but is not a matter of law.

CANALS.

A canal is an artificial channel of water, and is usually constructed for inland navigation. Where natural rivers can be resorted to for purposes of this kind, they are preferable to canals, because little expense may be required to suit them for navigation, and they may be easily kept in repair. But few rivers, generally speaking, are sufficiently level, straight, or deep, to admit of being profitably navigated by barges, and therefore artificial channels require to be cut. Canals are extremely suitable in level countries, possessing rivers or brooks which can afford a due supply of water. In China, from a very early age, certain large rivers have formed natural canals longitudinally through the country from west to east, while artificial canals have been made to proceed in a cross direction from north to south, thus effecting a universal water communication throughout the empire. Canals existed in ancient Egypt in connexion with the Nile, on a similar plan to what now prevails in China. Notwithstanding that canals were known to have existed from a remote antiquity in the east, it was long before they were introduced into western Europe. In modern times, they were first used by the inhabitants of the Netherlands, in consequence of the extreme flatness of their country, and the numerous channels of water which intersect it in all directions, in connexion with the lower branches of the Rhine, and other rivers. In Holland and Belgium, therefore, canals in a great measure exist as an essential requisite in the general arrangements of the country, and are, in point of fact, so many wet ditches or drains to receive the superfluous waters.

In countries differently constituted, canals are constructed only with reference to the profit, in the form of commercial speculation. The great question, accordingly, in forming the project of a canal, is, whether the anticipated amount of traffic will raise tolls sufficient to compensate the outlay of the undertaking and subsequent charges for repair and superintendence. It simplifies such an inquiry to know the following truths in reference to cost of conveyance. The cheapest mode of conveyance is by sloops, smacks, brigs, packets, steamboats, &c., and these will at all times be employed for heavy and bulky goods, such as coal, barrels of liquids, iron, and other cumbrous materials proceeding coastwise. The next cheapest mode of conveyance is by barges on rivers; and the next is by means of canals. After this are ranked, in point of economy, conveyance by land, on railways and roads, the last being the dearest, though often the only means of transport which can be obtained. According to this view, canals can never answer as profitable speculations, when they have to compete with coasting vessels of any description, or with any species of conveyance by rivers. They cannot even in certain circumstances compete successfully with railways, on account of the slowness of speed at which barges or boats are drawn along them; and as speed is becoming daily a matter of greater moment in traffic, canals are gradually losing the conveyance of every kind of goods for which quickness of transit is desirable. For the sake of economy in national resources, it is very *desirable* that these truths in statistics should be *generally understood* and remembered.

When the undertaking appears warrantal careful consideration of circumstances, the to be taken into account is the obtaining of a supply of water, and the fixing on the best— most level and unexpensive—line of route. parts of England, where an enormous traffi reckoned upon, canals have been projected an on a stupendous scale; mountains have been to admit channels of water through them, val by embankments, and bridges built in the for ducts across rivers; in short, no expense spared to render the inland navigation comp

The supply of water necessary for a cana level throughout its course, is small in compa that of one pursuing an uneven line. When common level of surface, the only expenditu is by evaporation; but when the level is vario loss is incurred at the locks in raising or low sels. A lock is a portion of the canal enclos ing doors, and must at least measure the l vessel. If a vessel is to be raised from on another, it is drawn up to the doors of the these are opened to admit it. Having sailed lock, the doors are closed behind it, and it i kind of prison from which there is no appeal While in this situation, the doors at the oppo the lock, which retain the water at the hig are slowly opened, and admit a rush of the l which speedily buoys up the vessel, and al sail off along the higher level. The lock is diately emptied, but remains full of water, an fore ready to be employed in letting a ves When the vessel approaches, and is fairly i lock, the upper doors are shut, and then the lo are opened; by this means the vessel is carrie lower level along with the rush of liquid, and on its course. A lockful of water has now been shot from a higher to a lower level on t and is lost, unless required for lower locks. T inundation of the banks from the issuing of w the locks, waste outlets require to be provide tain distances, particularly at the lower term the line of canal. The provision of water to s locks is ordinarily from an artificial lake whic blished near the highest ground in the line.

The breadth of most canals varies from t thirty feet, and the depth from four to six feet depth of water be sufficient to keep the ves touching the bottom, no greater volume is n for less power is required to pull a boat upon than a deep water, there being less liquid ag displaced. At one side of the canal a narr called the towing-path, is constructed, and u the horses which drag the vessel proceed. T difference in the manner in which the draggin attached to the vessel. In Holland it is the pr attach the rope to near the bow of the boat cause it to proceed over the outer extremity or species of mast, so as to keep it considerab the water and prevent its friction on the bank is not attended to in England, where the rope direct from the bow to the horse, and, except w state of great tension, it trails along the bankand of the water. In either case, the draught of t is exerted with a loss of power, for instead of fair draught behind, it is oblique, or in the dir the rope slanting to the vessel. The tendenc draught is to bring the boat to the shore, counteracted by the helm, and this again assis minishing the general amount of available pow

Throughout the canals of England and S only one horse is employed to drag a boat, h the extent of from fifty to seventy tons; and t weight dragging after it in a manner most dis geous, it will travel at the rate of two miles an or three miles an hour. That one horse sh capable of drawing fifty tons of goods in this s sive manner, gives an apparently favourable canal conveyance; but laying all charges on

re; and I think that more water actually stands on a very convex road, than on one which is reasonably flat.'

In laying out a new road, it is of some importance that the rises and falls be not too great. The most approved angles of ascents and descents in England are about one inch in a foot—from this to one inch in a yard. In order to obtain ascents not exceeding these, it is necessary in our uneven country to wind up a hill instead of going directly over it. In such cases the road is to be built upon the side of a hill, and this is considered the most advantageous ground upon which a road can be built, provided the hill has not too great an ascent; because what is taken from the upper side serves to form the embankment on the lower side. While we are speaking of embankments, we may mention the English method of forming them, which is so manifestly superior to our own, that it deserves to be imitated. 'The natural sod, which would be covered by the base of the embankment, having been cut off and laid aside, the earth is then wheeled or carted on to form the two outsides, which are raised to the required height, leaving the middle open. The sods are then placed on one another, the grassy surface at right angles to the face of the outer slopes, forming as it were a battering wall of sods against the embankment.' This method is sound and effectual in preventing the banks from washing away and gullying. While the outsides are forming, the lumps of earth, stone, &c., run downward to the middle; and in this way the whole is finished. When the work settles, it is found to tend towards the centre, thus preventing the outside slopes from giving way."*

The following judicious observations are made by the same authority on the subject of fences, and junctions of different roads:—"Fences are necessary along the sides of a road in all enclosed countries; but they should never be allowed to rise higher than four feet on common roads. It is absolutely necessary that the air and sun have free admission to a road; besides, where the fences are high, it gives a sweeping power to the wind, which is not beneficial. Mr Telford thinks that fences should never be more than four feet high, and that all trees within twenty feet of the sides of the road should be removed. He also thinks that twenty per cent. of the expense of repairing or improving roads is incurred by the improper state of the fences and trees along the sides, particularly on the sunny side; this will be manifest to any person who will take the trouble to examine the condition of that part of a road which is much shaded, compared to the other parts which are exposed to the sun and air.

"The junction of one road with another requires a little attention: it should always be made at right angles, and on the same level, if possible. All engineers agree that plantations of trees should not be made close to roads; but what the distance should be, depends on the elevation of the country, the soil, the breadth of the road, as well as its direction, &c. &c. An elevated situation is always more exposed to winds than a level or hollow. A broad winding road has chances of the least influence of the sun and wind, according to the obliquity of its angles; a road running north and south, though planted closely on both sides, will enjoy the sun during a part of every day in the year; one running east and west, planted on the south side with trees forty feet high, or more, will enjoy no sun during the winter months. The least injurious trees are single rows trained to high stems, properly pruned."

For some time after a road has been laid with fresh materials, it presents a rough surface, unpleasant to the feelings of those who are conveyed over it; but this roughness is gradually abated, the small stones are crushed into a compact mass, and finally, the road is smooth, hard, and level. The length of time that may elapse before any new repair is required, depends on the amount and kind of traffic, as well as the weather. Rain is a great enemy to macadamised roads, and particularly so when accompanied with much traffic. The water lies on the surface, and softening the material, the action of the horses' feet and of the wheels causes a certain depth of thin liquid mud. This mud should, by all means, be scraped off to a side, for the longer it lies, the stratum beneath is the more liable to be cut up and damaged. The scraping of the roads, therefore, becomes an essential duty of all who are interested in preserving the highways economically in repair. When the mud which is scraped aside thickens by exposure, it should be carted off, and may be employed on many soils as a useful manure. Besides containing a proportion of refuse from horses, it is loaded with particles of iron from wheels and horse shoes; and being substantially silica or ground stone, it may be administered with special advantage to heavy clay grounds.

Roads exposed to much traffic require to be renewed in surface at least once a-year. The first indications of decay are observable in the form of slight hollows, and ruts next make their appearance. In some cases, where the decay is only partial, a small quantity of metal may be scattered in the hollows, bringing them up to a level with all around. However, this is not usually done on well-kept roads near large towns. There the road undergoes a thorough repair once a-year, which is preferable to partial mendings. The best time for repairing roads is about November, or before the winter frost and snow set in. In commencing the repair, the road should be picked across, at intervals of twelve or fifteen inches. This is done by men, each having a pick by which he indents the hard bottom, or forms scores an inch deep in the road. The use of such a preliminary process, is to cause a ready union between the new and old materials. If the fresh metal were scattered over the old road, without any preparation, it would with difficulty unite to the substratum, and at best form an upper crust, which would be too easily damaged.

With respect to the keeping of roads in efficient repair, the most advantageous plan consists in assigning the entire duty to a contractor. This person, by undertaking to keep all the roads in a county or district in constant and uniform repair, is able to execute his functions much more economically than the private gentlemen who act as trustees of the highways and turnpikes. The trustees appointed by local acts of parliament to superintend highways, now generally employ contractors to keep the roads in repair at a specified price per mile, the payment being made from funds collected from the lessees of the toll-bars.

The aggregate length of the turnpike roads of Great Britain is now calculated to be 25,000 miles, at a general breadth of from fifty to sixty feet.* The cost of keeping these roads in repair differs considerably in different counties. In the neighbourhood of London, the annual cost is about L.550 per mile, in Yorkshire it is L.60, and in Wales L.20. The average is about L.50. Nearly all the road trusts are in debt for borrowed money. It is supposed that the debt is on an average L.320 per mile, or probably L.6,000,000 for the whole.

Law of the Road.—For general convenience and safety, drivers of vehicles and riders, in travelling along a road, are expected to take a particular side; and this practice is now so well understood, and is in itself so proper, as to have become a part of the common law. The law of the road is, that when drivers meet from different directions, each shall keep his left hand to the wall or footpath. Secondly, when one driver overtakes another, and wishes to pass him, he must keep his left hand to the vehicle which he passes. In the case of either meeting or passing, each party is entitled to the half of the road. The same rules apply to riders. If these regulations be neglected, and an accident occur, the

* Turnpikes were so called from poles or bars, swung on a pivot, having been placed on them, and turned either way when dues were paid. Gates are now substituted for these poles in Great Britain. In Germany, the pole is still used, one end being depressed to raise the other, and so permit a free passage.

* Scientific Tracts. Boston: 1833.

some of the lines of canal, since the introduction of railways, has sunk in an extraordinary degree, greatly to the loss of the proprietors. Ireland has about 300 miles of canals, mostly government undertakings, and in general they possess little trade.

Scotland has a number of canals, but they are chiefly confined to the western and mid district of the country. That which possesses the largest traffic is the Forth and Clyde Canal, reaching from the Clyde, a short way above Dumbarton, to the Forth at Grangemouth. This canal, which was opened in 1790, and affords a ready communication for small vessels between the east and west coast, extends 39 miles in length; its highest level is 160 feet, with 20 locks on the eastern acclivity and 19 on the western. The canal is connected with Glasgow by a side cut; and it is now joined by the Union Canal, which extends from near its eastern extremity to Edinburgh. This latter canal has proved a poor commercial speculation, but has been of great service to Edinburgh, by introducing coal at a cheap rate to the city, and affording an exceedingly convenient means of conveyance for goods to and from Glasgow. The Caledonian Canal is formed in a great measure by a chain of lakes, stretching across the country from Inverness on the east to Loch Eil on the west coast, a distance of 59½ miles. The canal part is 20 feet deep, 50 feet wide at bottom, and 110 feet at top, which affords a passage to frigates of 32 guns, or merchant vessels of a similar size. This great canal was undertaken as a public work by government; and after a labour of eighteen years was opened in 1822, having then cost £800,000. It possesses 13 locks on the east and 12 locks on the west coast, the highest level being 94 feet. By this canal the dangers of rounding the northern extremity of the island, by the Pentland Firth, may be avoided; but from the prejudices of seamen it has never been much used, and is now abandoned by government to a private company. As a means of allowing steam-boats to run between the Clyde and Inverness, the canal has been of great public service.

CONVEYANCE BY STEAM POWER.

STEAM-BOATS.

Until the year 1807, the only means of communication by sea was by sailing vessels affected by the winds, and on the land by the power of draught in animals, both of which were exceedingly defective. In 1807, Fulton introduced the use of steam-propelled vessels on the Hudson, between New York and Albany. In 1812, Bell introduced a similar mode of steam navigation on the Clyde at Glasgow; and in two or three years afterwards, steam-boats were common on British rivers and on the sea around the coasts. We do not consider it of the least moment to mention how or by whom steam propulsion was first discovered; the merit of this and every other great invention is alone due to the person who brought it into practical use, and in the present instance it is clear that that person was Fulton.

Leaving all account of the *mechanique* of steam power, as applicable to propulsion, to be given in our article on the STEAM-ENGINE, we need here only allude to the extraordinary changes which have been effected *upon conveyance* by sea and land by this newly applied *motive force*.

Steam navigation has hitherto been chief to coasting and voyaging on rivers and estu in these respects it has greatly altered th of transit. In 1840 there were in the Uni dom and colonies 630 steam-vessels, possessi gregate burden of 71,000 tons. The rivers they principally plied were the Thames, the the Clyde, the Forth, the Tyne, and the Seve Clyde alone owned 76 steamers, having ma tons. Besides those which were devoted t trips up and down these rivers, a large propor regularly between different coasts in Britain land, and between different ports and the From the Thames, also, steamers proceeded different ports on the continent. In short, are now found traversing the whole line of co ing up and down rivers, and holding comm with ports in distant parts of the globe.

One of the finest lines of large steamers no ration in Britain is that between Edinburgh don; it has for several years consisted of fr eight vessels of about 300 tons each, and regularly twice a-week. Formerly, the pa sailing smacks occupied, on an average, six days, but sometimes it was three weeks; voyage by steam is performed with remark cision in from 48 to 54 hours, the distance miles. The lines of steam-packets between and Liverpool, Glasgow and Belfast, Liver Dublin, Bristol and Cork, Aberdeen and Lond dee and London, London and Rotterdam, Lon Hull, London and Newcastle, Southampton an Dover and Calais, are all upon a great scale, a an amount of communication for passengers sit for goods, of which no description of ours c vey any just idea.

The above may, however, be considered as clude those vessels which proceed on voyage more than two days' duration. Latterly there h added steamers which proceed between Engl Lisbon, and thence to Maderia; also steamers to the Cape of Good Hope; and more lately still, s which make the voyage across the Atlantic, an means of regular communication between Bri North America. The Great Western, a ste 1340 tons burden, was the first large vessel whi regularly on this station. This vessel depart Bristol on the 7th of April 1838, and reach York on the 23d of the same month; but the cl occupied on the passage were only 14. This established the practicability of steam-vessels the Atlantic, and now there are several whic regular intervals. Besides crossing from Londo tol, and Liverpool, to New York, and returnin is also a line of large steamers which sail Liverpool and Halifax in Nova Scotia. The la the Atlantic steam-boats is the British Queen measures in entire length 275 feet. Her two are of 250 horse power each, and she is calcu carry 1862 tons. The outward voyage of th this magnificent steam-vessel requires a cons of 540 tons of coal, and her homeward voyag days 360 tons. Larger and more powerful ves now in preparation.

On the coasts and rivers of North America navigation has been carried on to a much gre tent than in Great Britain or any other coun 1834, there were 234 steam-vessels on the Mi sissippi, and other western waters; but now th ber is above 500. Some of the American steam are larger than any in Britain, and also more in decoration; but they are much more liable dents, from the employment of steam at a v pressure, and a general carelessness in the management.

The Rhine, the Seine, the Danube, and oth rivers on the continent of Europe, are now n by steam-vessels, chiefly for conveying passeng engines used are mostly made in England.

lway, or *chemin de fer* (road of iron), as it is
y our French neighbours. By the establish-
railways, a way was opened for the adaptation
power to locomotion, and now, as is well known,
come generally into use.
arliest railway of which there is any account,
constructed near Newcastle-upon-Tyne. In
North's Life of Lord Keeper North, he says
his place, in 1676, the coals were conveyed from
m to the banks of the river, "by laying rails of
exactly straight and parallel; and hulky carts
ade with four rullers fitting those rails, whereby
riage was made so easy, that one horse could
ur or five chaldrons of coal." One hundred
erwards, about 1776, Mr Curr constructed an
lroad at the Sheffield colliery. The rails were
ed by wooden sleepers, to which they were
In 1797, Mr Barns adopted stone supports in
ad leading from the Lawson main colliery to the
ear Newcastle; and in 1800, Mr Outram made
hem in a railroad at Little Eaton in Derbyshire.
-five years afterwards, this species of road was
ully adopted on a public thoroughfare for the
ransation of merchandise and passengers, namely,
kton and Darlington railway, which was open-
n 1825, and was the first on which this experi-
as made with success. From that time, accord-
new era commenced in the history of inland
nce.
s remarkable circumstance, that the early prac-
railway conveyance could not imagine that a
, moved by steam power, could proceed along
without the aid of toothed wheels and a rack;
vercome this imaginary difficulty, no small de-
expense and labour was fruitlessly incurred.
the year 1815, Mr Blackett, of Wylam, near
tle, effectually proved, by repeated experiments,
adhesive power of the wheels on the rails was
mes sufficient to cause a progressive motion in
ne, with a train of loaded carriages, upon a rail-
her level or with a small acclivity. Important
this discovery, fifteen years elapsed before steam
ives were established. This great triumph of
urred in connexion with the opening of the
ol and Manchester railway, on the 15th of Sep-
1830, since which period railways have spread
opulous parts of the country.
le as is the idea of a railway, a prodigious ex-
s necessarily incurred in bringing it into prac-
eration. All inequalities of surface in the ground
e removed, low parts must be filled up by em-
nts, high parts must be reduced, eminences,
t would be impolitic to level, must be perforated
nels—the whole route being brought as nearly as
s to a level. Besides, the land over which it is
ed must be purchased, frequently at an exorbi-
st; and the preliminary expense of overcoming
pposition and procuring an act of parliament to
h the line, sometimes amounts to as much as
per mile. An entire charge of £30,000 per mile
dered a moderate outlay in the construction of
s in Britain.
ng line of railway that has yet been formed is
ly level throughout, but the acclivity is seldom
han one foot per mile, and this does not produce
tardation, which it would be absolutely neces-
obviate by an excess of expenditure. Every
so, is curved, or bent from a truly straight
n, at various places in its course; and this is
evil which it is necessary to tolerate to a cer-
tent rather than avoid by uneconomical outlay.
e reasons now stated, nearly all railways are
perfectly straight nor perfectly level; and so far
is the case, there is a loss of power in drawing
s along them. Yet, in the most disadvantageous
circumstances, the railways are so comparatively
and suitable for transit, that they allow the
approach to a total absence of friction. It is
ng of notice, that the absence of friction in rail-

ordinary roughness of the iron.

Rails.—The experience of ten years has introduced a few improvements in the construction and management of lines of railroad. At first, malleable iron rails were supposed to be preferable to those of cast-metal; but now it is understood that cast rails, if properly made, will endure all the tear and wear to which they can be fairly subjected. To be of the strongest and best form, each individual rail should be at least twelve feet in length, six inches in depth at the two ends, and thence gradually deepening beneath in the fish-belly form to the centre. The thickness should be fully one inch, and the upper surface, on which the wheel is to run, should be an inch and three-quarters or two inches, so as to project laterally like the cross top of the letter T. The rails are to be supported at their joint extremities, where they are pinned together, and also at intervals of every three feet. The supporters should consist of transverse bars of wood, sunk in the ground; by being thus crossing from the one track to the other, both lines of rail are kept from separating or shifting, and if there is any tendency to subside, both are equally lowered. On many lines of railroad stone sleepers are preferred to wood, but, as it seems, with no adequate advantage. Stone sleepers present too unyielding a base to the rolling of the wheels, and cause a jolting most injurious to the mechanism of the carriages. In several instances, lines with stone sleepers have been taken up, and wood substituted. The railways in Belgium are laid on wood. To attain the highest perfection in the mode of laying rails, a plan has been followed on the Newcastle and Shields line, and also on that of the Great Western between London and Bristol, of placing rails having an even under side upon longitudinal beams of timber, which are united at certain intervals by transverse bars: thus the whole substructure is a handsome framework laid on the ground, and presents the best species of support. In general, this will be found too expensive a kind of railway; and it may be anticipated that the method of fixing rails upon cross bars of wood, at intervals of three feet, will ultimately come into universal use.

are about an inch and a half in depth. T
of locomotives are now made without fl
fore and hind pair require flanges of rat
usual depth. Wheels of large diamet
greater ease over the rails than those wl
because the large ones, in this as in all
have more power in overcoming obstacl
is a proper medium in the dimensions of w
wheels are inconvenient in point of heigl
to produce a rocking motion. It woul
the most suitable diameter for the wagg
wheels is from two and a-half to three
the usual size. The wheels of the loco
diameter of about four feet; to make th
considered injudicious.

Curvatures in the Road.—The curvatu
road present some obstructions, since th
car and waggons being usually fixed
frames, every bend of the tracks must e
some lateral rubbing, or pressure of th
the rails, which will occasion an increas
the wheels are fixed to the axles, so that
volve together, according to the mode o
hitherto most usually adopted in passing
wheel that moves on the outside or loo
be slided over whatever distance it exce
of the other rail, in case both wheels roll
same diameter. This is an obstruction
almost every railroad, since it is rarely
make such a road straight. The small
that is allowable should not be less tha
300 feet. In going round a height, the
on no account be so small as this, in o
engine drivers may have a clear look-ou
so prevent collisions and overtakings on

Inclined Planes.—Where the inclinatio
is greater than that for which the ordi
calculated, the ascent must be effected by
additional power, the amount of which
computed, since in those parts no addi
of the cars or wheels is to be provided
the additional resistance arising from gr
overcome. If, for instance, the addition

train, the locomotive consists of a long iron
ar cylinder supported by six wheels, with a
y rising in front, and affording standing space

ising 1 in 96, and extending 1¼ mile, the engine
sisted by another engine called the Samson,
e ascent was performed in 9 minutes. At start-
n fire-place was well filled with coke, and the
upplied to the tender accurately weighed. On
g at Manchester, the fire-place was again filled,
e coke remaining in the tender weighed. The
nption was found to amount to 929 pounds net
being at the rate of one-third of a pound per
mile. Speed on the level was 18 miles an hour;
ll of 4 feet in a mile, 21½ miles an hour; fall of
in a mile, 25½ miles an hour; on the rise over
es, 8 feet in a mile, 17½ miles an hour; on level
sheltered from the wind, 20 miles an hour. The
as moderate, but direct ahead. The working
slipped three times on Chatmoss, and the train
arded from two to three minutes. The engine,
occasion, was not examined before or after the
y, but was presumed to be in good working order.
he 29th of May, the engine called the Samson
ing 10 tons 2 cwt., with 14-inch cylinders, and
stroke; wheels 4 feet 6 inches diameter, both
being worked by the engine; steam 50 lbs. pres-
30 tubes) was attached to 50 waggons laden with
ndise; net weight about 150 tons; gross weight,
ng waggons, 223 tons 6 cwt. The tender weighed
making a gross load (including the engine) of
ns 3 cwt. The engine with this load travelled
Liverpool to Manchester (30 miles) in 2 hours
minutes, exclusive of delays upon the road for
g, &c.; being at the rate of nearly 12 miles an
The speed varied according to the inclinations
road. Upon a level, it was 12 miles an hour;
descent of 6 feet in a mile, it was 16 miles an
upon a rise of 8 feet in a mile, it was about 9
n hour. The weather was calm, the rails very
ut the wheels did not slip, even in the slowest
except at starting, the rails being at that place
nd greasy with the slime and dirt to which they
ays exposed at the stations. The coke consumed
journey, exclusive of what was raised in getting
steam, was 1762 lbs., being at the rate of a
of a pound per ton per mile."

ral Appearance and Management.—In America
lgium, most lines consist of but one track; in
Britain all possess two tracks, suitable for trains
n opposite directions, besides which there are
s at which quick-going trains may pass those of
motion. At certain convenient points along the
re are stations or houses, at which the trains stop to
and set down passengers, and there is no stop-
any other place. On most of the lines there
w trains, taking goods and second-class, or an
kind of carriages, and fast trains, taking only
l second class carriages; some lines also have
ins, which proceed at more than usual speed, and
only first-class carriages, stop at fewer places by
. The first-class carriages are covered, and
e three coach bodies united, but of more com-
s dimensions; second-class carriages are open
ides, and not lined with any stuffing; a third-class
s are entirely open; goods carriages are open
on which the articles are piled and fastened;
for cattle are open, with a railing round the
All the carriages in a train are linked one to
by strong iron hooks, and to prevent them
ocks against each other, the various carriages
vided with projecting rods on springs, cushioned
outer extremities. Generally, the fares charged

for transmission are higher than they need be; a common charge is at the rate of 3d. per mile for each passenger in a first-class carriage; and it is understood that lower rates would create more than a compensatory amount of traffic.

There are certain excellences in the arrangements of all the railways which deserve to be mentioned. Each line, being the property of a private association, is secluded from one end to the other from the intrusion of the public; and therefore no jostling or confusion takes place, either upon entering or leaving the carriages. The rails of one line, likewise, join those of another, by which means carriages generally proceed onwards without changing passengers or luggage. A carriage in which passengers take their seats at London goes straight on to Preston—that is, along the lines of three companies. The extraordinary magnitude of the railway undertakings has enabled the directors to organise rules which could never be enforced in the irregular scramble of stage-coaching. It is customary to dress the subordinate functionaries on all the lines in a uniform resembling that of the London police—each man having his number inscribed in figures on some part of his dress; so that, if any one be guilty of incivility or inattention, he can be easily reported to his superiors. There is one pleasing peculiarity in the arrangements, which is entitled to the highest commendation: it is the rule that no officer shall on any account take a fee from passengers, on pain of instant dismissal. Those who imagine that fees to guards, coachmen, or waiters, are requisite to ensure civility, will be surprised to find that railway attendants are infinitely more polite and attentive than their brethren of the coach conveyances. This, in itself, gives travelling by railway a great superiority over all other modes of public conveyance.

The London and Birmingham line, which was the first completed after that of Manchester and Liverpool, has always appeared to us to be among the best managed of the various railways, as well as the most complete in all its arrangements. There are accommodations on this line which are to be seen on no other. On all the lines there are waiting-rooms both for ladies and gentlemen at the different stations; but exclusively of those on this line, there is a large and commodious house of entertainment at the Birmingham terminus, where meals stand ready prepared for the passengers. At Hampton, a place half way from the metropolis, and where the train stops ten minutes, there is likewise a large establishment in the form of an open booth or shop, where tea, coffee, or viands of a more substantial kind, with different liquors, are sold on the instant to those who require refreshment.

Passengers who make the journey for the first time by the mail train, will be amused by observing a travelling post-office in the string of carriages. This "Grand Northern Railway Post-Office," as the inscription on its side denotes, is a carriage consisting of two small apartments, one of which is appropriated to the guard, whose duty is to exchange the bags, and the other is fitted up with a table for sorting letters, and holes round the walls for their reception. The manner in which the duties of the clerk and guard are performed in this flying post-office, is strikingly significant of the new order of things introduced by the railway system. Outside the vehicle a species of net is extended by a hoop, and into this the letter-bags are dropped as the train sweeps onward in its course, the bags which are to be left being at the same time tossed from the window by the guard. The fresh bag of letters being received, it is speedily opened, its contents re-arranged, and a new bag for next town being made up, it is projected as before at the place of its destination. By this means a letter may be written, sent through the post-office, and delivered at the distance of twenty miles, in the space of a single hour.

The number of railway companies incorporated by act of parliament up till January 1839, in Great Britain and Ireland, was 107, and the capital which they were allowed to raise by shares was £41,610 were besides allowed to raise by loan £16,1 considerable number of these railways bei or at least crude speculations, have never c and the number of railways actually begun pared or finished at the beginning of 1840, i kingdom, was only about fifty. The princip —the Liverpool and Manchester Railway, a two miles long, and uniting these populous

Entrance to the Railway Tunnel, Liverpo

London and Birmingham Railway, about e and twelve miles long, connecting the metr the centre of England; the Grand Junctio continuing the London and Birmingham lin Liverpool and Manchester, and also to a r ceeding northward to Lancaster, and thes most important thoroughfare obliquely acros try; the Midland Counties, North Midland, North of England railways, connecting the of trade in Northumberland, Durham, Yor Derbyshire, with the London and Birmin the Newcastle and Carlisle Railway, connec towns; the Great Western Railway, about dred and seventeen miles long, connecting L Bristol, and with smaller tributary lines o the west of England; the South-Western about seventy-seven miles long, connectin with Southampton; the Manchester and L way, connecting these populous towns. In the Edinburgh and Glasgow Railway, and th and Ayr Railway, are the principal lines. Th of the whole of these undertakings is the Gra ern. This line has two tracks, each of seven while on all other railways in this country th between four and five feet; the carriages, which run on the Grand Western, must be n confined to itself. The most prosperous of al is that of the London and Birmingham, th revenue of which is upwards of £16,000: t revenue of the Grand Junction, which joins it,

The speed at which railway trains usually from twenty to twenty-five miles per hou sometimes it is much more. At the ordina speed, a journey from London to Liverpool by train is performed in about nine hours; and w ways are extended north to Edinburgh, the from London to that city will be performed in hours, or perhaps less. Travelling by railw of the common rates of speed is attended personal danger than stage-coaching, because motives are perfectly under control. Any personal injuries which have occurred on rail with scarcely an exception, attributable to the ness of the engine-drivers, and by the employ superior class of men to direct the motions of t this fruitful cause of mischief is in the course obviated. With this improvement, conveyanc ways will be ranked among the most useful pendous inventions of art.

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S'S

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avity, the *stomach*, into which the food is re-
d where it undergoes a preparation; and the
n of it into the system takes place by vessels
d on the walls of this cavity. Plants require
ut a regular supply of water, with carbonic
monia, and a small quantity of saline matter
in it; and the conditions of their growth
afford them a constant supply of these, which
imbibe by means of their roots and leaves,
moving from the places in which they are once
at animals can only be supported by materials
y organised, all their food being derived from
or animal substances; this is nearly always
state, and has to be reduced to a fluid form
to be imbibed into the tissues.

s of every animal presents a number of facts
vation; and these may be separated from each
ording to their character. Thus, we might
their *structure* only—the department of science
termed *anatomy*. Or we might examine their
functions—in fact, the history of their lives
is termed *physiology*. In pursuing either of
wever, we might restrict our inquiries to a
imal, though it would not be advantageous to
The objects of the zoologist are different. He
the several beings included in the Animal
may be regarded not only in their individual
ut in their relations to each other; that they
ts of one vast plan, as harmonious in itself as
beautiful building made up of a vast number
linate parts; and that, whilst the diversities of
aspect seem almost infinite, they are evidently
ate to certain general principles, which pro-
only the manifest conformity, but the apparent
es from it. The grand aim of the scientific
being to discover this plan, he employs *classi-*
s a means by which to facilitate his acquaint-
h the vast number of beings that claim his

CLASSIFICATION.

king at the variety of animal forms around us
s we are familiar with as inhabitants of this
or as natives of other climates collected for
vation—the mind naturally associates together
ich have the greatest general resemblance,
rates these (although differing in some degree
themselves) from those with which they have
dissimilarity. It is by pursuing this plan, from
e or degree of resemblance and difference to
that classifications are formed; and these will
t according to the amount of knowledge upon
ey are founded, respecting not only the ex-
rm but the internal structure of the objects
ude.

ience teaches that the offspring of any kind
l is similar to its parents, though slight varia-

necessary to take great care to avoid errors arising from variations in the forms of animals at different periods of their existence.

A number of species, differing from each other in trivial points, but having a strong general resemblance, are said to belong to one *genus*. The genera most nearly allied are united into one *family*; several families into an *order*; and several orders into a *class*. The class, therefore, contains a very large number of species, many of them differing widely from each other, but all agreeing in some prominent and important character. And the classes composing the Animal Kingdom are arranged under four groups, on account of their correspondence in certain general particulars, and their difference in others: these are called *sub-kingdoms*. This is the alphabet of the science; and when this has been acquired, the student will proceed to his grammar, which consists of such a knowledge of the principal divisions of the animal kingdom, as will enable him to read the language of nature with understanding, so as to learn from the simple *name* much respecting the structure and character of the particular specimen, of which he would otherwise be ignorant.

PRIMARY DIVISIONS OF THE ANIMAL KINGDOM.

In considering the primary subdivisions of the Animal Kingdom, it is desirable to view them at first in their most simple aspect, and to regard merely the points of agreement amongst all the beings contained in each group, and their most striking differences from the members of other groups. The subordinate differences amongst the forms contained in any one of the primary groups, will be subsequently attended to. Following the arrangement of Cuvier, which in this respect is unexceptionable, we divide the animal kingdom into four sub-kingdoms—VERTEBRATA, ARTICULATA, MOLLUSCA, and RADIATA. The principal characteristics of these will now be pointed out.

The VERTEBRATA derive their name from the peculiarity of their skeleton, which essentially consists of a back-bone or spinal column, formed of a number of separate pieces, so united as to combine great strength with flexibility. These are termed *vertebræ*. Each is perforated with a large aperture; and, when all are united, a continuous tube is formed, in which is lodged the *spinal marrow*, a very important part of the nervous system (which is quite different from the *marrow* of other bones, which is an oily substance, subservient to nutrition). At one extremity, the spinal column is extended into a large bony structure, the *skull*, which is especially designed for the protection of the cerebral or nervous mass, which may be regarded as the principal part of the spinal marrow) and of the organs of sense connected with it. At the other extremity it is continued into a *tail*, the size and prolongation of which are usually greater in proportion to the small size of the body. Connected with this spinal column are a series of *ribs*, which pass off from it on each side, and generally meet again in a breast-bone, enclosing a cavity (that of the chest), in which are contained some of the organs of nutrition. Appended to it are two pairs of *limbs* or *extremities*, which are usually the [illegible] They have all *red* blood, which is propelled the system by a muscular heart. The mou nished with two jaws, which are placed one *before* the other; there are never more than they never open sideways as in the Articula are usually armed with teeth, which are in very analogous to bone.

The Vetebrata are characterised by a high of *intelligence* than is possessed by any oth The animal powers of sensibility and spontan tion are also greatly developed; and in ac with these, a complete symmetry or corres between the two sides of the body is observa nally. But this symmetry does not exten organs of vegetative life, which are irregu posed in the cavities which they occupy.

In the ARTICULATA, the skeleton is *external*, ing not only the nervous system but the ent with the muscles which move it; these, as is in the crab or lobster (which are the larges of this group), being attached to the interi firm casing. This skeleton is formed of a n pieces or *segments*, jointed or *articulated* t whence the name of the group. The centi very characteristic illustration of this structu legs, as well as the body, are here seen to be in a firm envelope, of which the pieces are c together by a flexible membrane; and the se the body are nearly alike along its entire leng in the higher classes of this sub-kingdom, w movement is performed entirely by the legs, a tacea, or by the legs and wings, as in Insects ments of the body to which these are attached united together, in order to give their muscl point from which to act. But, in the lower cla as the leech and worm, where the extreme of the body, and the change of its dimension only means of locomotion (no members being the whole envelope of the body is so soft, that sion into segments is scarcely perceptible. Th system of the Articulata is not by any means developed as that of the Vertebrata; in ge organs of taste and vision are all that can be in them; those of hearing and smell being only by a few of the higher tribes. The numbe which these are present, is often very great; never less than six. More than one pair of jaw exist, and they open laterally. The blood is w only in the highest classes is propelled by a heart. The Articulata have their whole adapted to great activity of locomotion, and t formance of *instinctive* actions of a high c The class in which this is most evident—that is by far the largest in the whole animal The body, which is usually of small size, di principal bulk from the organs of *animal* life, the muscles which move the extremities; and *ral symmetry* is even more remarkable in the V the Vertebrata, extending in part to the organ trition as well as to those of sense and motion.

The group of Mollusca must be described its negative than its positive characters. The the name imports, is here soft, and destitute of

keleton. It is enveloped in a loose elastic skin, is termed the *mantle;* and the outer surface of as often the power of secreting a shell. But this s by no means adapted to the form of the animal; no regular series of joints for the purpose of faci- g the movement of the body, and it has no pro- ions for giving protection and support to locomo- ppendages. Moreover, of two species closely in general structure, it is often present in one sent in the other, as in the snail and slug; and, present in both, often differs much in form; so t cannot be regarded as a part of the structure ial to our idea of a molluscous animal. That s principally founded upon the softness of the the high development of the organs of digestion, ion, &c.—in fact, of the system of *vegetative* life, constitutes the bulk of the body; and, on the ıry, the low development of the powers of sensa- ınd locomotion, and the organs of *animal* life. of them are entirely fixed to one spot during all ıe very earliest period of life; and in the lowest s, there is a tendency to aggregation into a com- structure, like that which is seen in the zoophytes. umber of Mollusca possessing *active* powers of lo- ion is comparatively small; and of those which t entirely fixed, the general character is *sluggish*. The blood is generally white; and is often pro- by a powerful heart, and distributed through a ex system of vessels, even where the animal seems ; inert. Where any correspondence between the les of the body exists, it is usually restricted to parts which are concerned in the functions of l life; especially the head, on which the organs ·ial sense (when they exist) are placed.

division RADIATA includes the lowest members of imal kingdom, and those, therefore, which most approximate to vegetables. There is a great ıcy in the animals of this group to associate into und structures, in which each individual has a ı degree of connexion with the rest. Thus are l those assemblages which, from their general blance to plants, are commonly called *Zoophytes* il plants). But as, in investigating the charac- a tree, we study the separate flowers and leaves, tudying the zoophytes, we consider the individual s which form them. These polypes, in common he higher kinds of radiated animals, which are l to exist separately (such as the star-fish), are uished by the *circular* arrangement of their or- ıround a centre, in which the mouth is placed; om this arrangement the name of the group is d. There is thus a repetition of similar parts; s in most other instances where this is the case, it power of reproducing those which have been In many of the Radiata there is no distinct skele- ı others a very firm support exists, almost always ·ing of the circular arrangement of the soft parts. ea-anemone is a good example of the lower forms group; the star-fish or sea-urchin of the higher; ew species belonging to it possess much sensibi- power of locomotion. In many instances there o distinct blood-vessels, but the nourishment is ved to the tissues by direct absorption from the ial surface and from the walls of the stomach.

SUB-KINGDOM—VERTEBRATA.

ting off with the idea of a *vertebrated* animal as ossessing an internal bony skeleton, essentially sed of a jointed spinal column, containing the marrow, and expanded at one extremity into a ase for the reception of the brain, having usually ers or appendages for locomotion, which never d *four* in number, endowed with all the five senses, a general with considerable activity, having red , and altogether a more complex organisation than ver classes possess, as well as a higher degree of gence—we next proceed to consider upon what principles this extensive group may be subdivided into others, which, agreeing in all these particulars, shall yet differ in other important characteristics.

The ordinary observer would readily establish three subdivisions or classes, upon the three well-marked types of form which he perceives to be adapted to existence in the three different elements. He sees that one large group is entirely confined to the water; that the form of its body is peculiarly adapted for motion in that medium; that its members are constructed for most advantageous propulsion in it; and that it is incapable of existing, at least for any length of time, out of it. This group he calls by the name of FISHES; and he naturally associates with it some of a higher class, which resemble it in external appearance and mode of life. Another large group he observes to be formed to pass a great part of its life buoyed up only by the air; that the form of its body, the construction of its members, and the peculiar covering with which these are invested, specially adapt it for this peculiar mode of support, and for rapid motion through the element it inhabits; and that it is incapable of existing for more than a few minutes under water. This is the class of BIRDS; and with it, also, the ordinary observer associates a portion of a superior class, which is adapted in part to a similar mode of existence. A third group would consist of animals possessed of four legs, adapting them to a residence on the earth, and to motion on its surface; these would also be found to agree in their incapability of living beneath water like fishes, or of rising into the air like birds. But further examination of these *quadrupeds* would disclose some important differences in structure and vital actions, which separate them into two great divisions, very widely apart from each other. It is soon observed that some are *warm-blooded*, maintaining a constant and elevated temperature, whilst the others are *cold-blooded*, their bodily heat varying with that of the atmosphere, and in general being but little above it; that the former are covered with hair or something analogous to it, whilst the latter are coated with scales; and that the former produce their young alive, or are *viviparous*, and nourish them afterwards by suckling, whilst the latter rear them from eggs, or are *oviparous*. Hence this group is subdivided by the naturalist into two, of which one—that of MAMMALIA—is superior in its general organisation to birds, whilst the other—that of REPTILES—is intermediate between birds and fishes. The scientific characters of these groups will next be considered.

FISHES are oviparous vertebrata, inhabiting the water, and respiring that element by means of *branchiæ* or gills, which are filamentous prolongations of the surface, into which the blood is propelled, in order to be brought into relation with the air contained in the surrounding water. The heart only contains two cavities; one of these receives the blood which returns from the system, and the other propels it through the gills, from which it is conveyed by the blood-vessels to the body at large. They are in general cold-blooded, but few of them maintaining a temperature above that of the surrounding medium. Living habitually in an element which is nearly of the same specific gravity with their bodies, fishes have no weight to support, and have only to propel themselves through the water. Accordingly, we find their structure adapted for great freedom of motion, rather than for firmness and solidity; progressive motion is chiefly accomplished by the lateral action of the spine, which is endowed with great flexibility. The vertebræ, instead of being articulated by a flat surface, as in the Mammalia, or by a ball-and-socket joint, as in serpents, have each of their surfaces concave, and these glide over a bag of fluid, which is interposed between each pair of vertebræ. The tail is flattened vertically; and it is by its movement from side to side that the fish is urged forwards, as a boat by a sculler. The *pectoral* fins, which answer to the hands of man, and the *ventral* fins, which represent the feet, serve rather as *steering* than as *propelling* organs; and they also assist in raising and depressing the animal

in the water. In a large proportion of this class, the skeleton is cartilaginous only; and in a few of the lowest the vertebral column is not divided into distinct portions, but forms one continuous tube of gristle or even of membrane only. The surface of the body of fishes is almost always covered with scales; and these are sometimes quite bony, and fitted closely together, especially where the internal skeleton is soft.

Reptiles are also oviparous, cold-blooded vertebrata; but, in their adult state, they breathe air, which is introduced into *lungs* or internal cavities; and they mostly are formed to live on land—those which inhabit the water being obliged to breathe at the surface. Their heart possesses three cavities, one of which receives the blood from the lungs and another from the system at large; the pure and impure blood are mixed in the third cavity, and the fluid is propelled by it partly to the lungs and partly to the body. Thus only part of the blood expelled from the heart is exposed to the influence of the air at each contraction; and this deficiency is accompanied by a general inertness of the other functions. Their motions are chiefly confined to crawling and swimming; for though a few at times can run and leap very quickly, their general habits are sluggish, their sensations obtuse, and their digestion slow. Hence they can exist for a long time with a very feeble exercise of these functions, under circumstances that would be fatal to animals in which they are performed with greater activity. In cold and temperate climates they pass the whole winter in a state of torpidity. There is greater diversity of form and structure among the members of this class, than in any other division of the vertebrated series. The *tortoises*, *lizards*, and *serpents* appear so different, that a common observer would separate them widely; and yet they not only agree in all the foregoing characters, but pass into each other by links of transition so gradual, that it is difficult to classify them. There is one group which, in its adult condition, bears a general correspondence with reptiles, and has been commonly associated with them; but which only arrives at this condition by passing through a kind of metamorphosis, like that of insects: this is the *frog* tribe, which includes several animals bearing the form of lizards and serpents, but differing from them in having a soft naked skin, instead of a scaly one, and in passing the early part of their lives—that which, in the frog, is called the *tadpole* state—in a condition like that of fishes in all essential particulars. These differences have been regarded by some naturalists as establishing their title to rank as a distinct class, to which the term Amphibia has been given.

Birds are, like fishes and reptiles, oviparous vertebrata, and like the true reptiles, they breathe air during the whole of their existence; but they are warm-blooded, having a heart with four cavities and a complete double circulation, by which all the blood returned from the system is transmitted to the lungs, before being distributed to it again. This high amount of oxygenation of the blood is accompanied by great activity and energy of all the organic functions, acuteness of the senses, and rapid and powerful locomotion. The class is further distinguished by the position of the body upon two legs only, and by the modification of the anterior members for wings; by the covering of the body with feathers, or something analogous to them; by the deficiency of teeth, in place of which the jaws are furnished with a horny covering or bill; and by various other characters of less importance. There is a peculiar conformity in the general structure and aspect of all the members of this class, with which scarcely any other animals are liable to be confounded. Birds have been not inappropriately termed the insects of the vertebrated classes.

The Mammalia agree with birds in possessing a complete double circulation and warm blood; and with reptiles *in breathing air*, and generally living on the surface *of the earth*; but they differ from all other vertebrata, *not so much in producing* their young alive (which is *the case in a few species* of reptiles and fishes), as in *their subsequent nourishment* of them by suckling—

from which circumstance the name is deriv
class is placed at the head of the animal king
only as being the one to which man belongs,
because it is that which enjoys the most
faculties, the most delicate sensations, the mo
powers of motion; and in which all the differ
ties seem combined to produce a more perfe
of intelligence; the one most fertile in resour
susceptible of perfection, and least the slave o
Although principally adapted to motion on th
we find one tribe possessed of the power of
the air like birds, and another formed to li
water like fishes; but both these agree with ot
malia in all essential characters, and differ re
from the classes with which their habits seem
ciate them. To the Mammalia is confined t
tion of the body by hair or fur; the nearest
to it being in the hair-like feathers of a fe
of birds. But the presence of this covering
means universal in the Mammalia.

CLASS I.—MAMMALIA.

The Mammalia are universally regarded as
ing the highest group in the animal kingdom;
from being the one to which man belongs (s
least, as his bodily structure is concerned), bu
possessing the most complex organisation, ad
perform the greatest number and variety of act
to execute these with the greatest intelligenc
contrast is here extremely strong between the
ing and the *instinctive* powers. When we com
sagacity of a dog, and the great variety of circu
in which he will display an intelligent adap
means to ends, with the limited operations o
sect, over which the judgment and will seem
no control, we cannot help being struck with th
ence. The one is *educable* in the highest deg
to man; the other could not be made to c
habits by the most prolonged course of discip
ascending the animal scale, we observe the
gradually becoming subordinated to the r
powers; and this may be particularly noticed
the members of the class under consideration
exhibit much variety in this respect.

If we regard intelligence as the chief chara
of the Mammalia, we should perhaps rest
principal varieties in the degree in which this
sessed by the several subordinate groups, as the
work of our division of the class into orders.
the sake of convenience the naturalist seeks fo
characters, and more particularly aims to esta
classification upon such as are external and ea
cognised. Such a classification will be *natural*,
will most nearly associate together the anim
have the greatest general resemblance, and w
widely separate those which have the least, in
tion as the characters which are selected for t
pose may be regarded as indicating the general
mation of the several animals. In this resp
structure of the extremities, and the arrange
the teeth, are found to be the most valuable.

From the general structure of the extrem
may learn much of the habits of the animal,
adaptation of its whole organisation to a pa
mode of life. These, for example, would be
determined by an inspection of the wing of a ba
flapper of a whale. Hence we shall not be far
we throw into distinct groups all the Mammalia
ing one or other of these modes of conformation
among those which are adapted to walk upon l
must seek for some slighter differences; and
may in the first place look for in the organs o
since on these will depend much of the addres
animal, and a number of differences connected
amount of its intelligence. The degree of perf
the organs of touch is estimated by the mo
mobility of the fingers, and the greater or les

RATA.

ease, aided by the lateral motion of the jaws, getable substances are reduced to a pulp. Ani- unguiculated fingers are susceptible of more their food is of different kinds; but it may at known from the form of the grinders, and from e of mobility and delicacy of the fingers. In grinders are formed, like those of the hoofed to triturate vegetable substances by elevated nd in these the extremity has the least power movement, the habits of the animals assimil- those of the Ungulata. In others, the grinders narrow, and are formed with sharp points and tting like the teeth of a saw; these are adapted ing animal flesh; and the jaws are fitted to- ke the blades of a pair of scissors, having no it a vertical one. In others, again, the sum- he grinders are raised, not into cutting edges, onical points; and they are thus adapted for down the hard envelopes of insects, upon ch animals prey. Finally, in mammalia which ted to a variety of food, but which employ e soft and pulpy than the tough and stringy lants, the summits of the grinders (which are ntirely with enamel) are raised into flattened tubercles, adapted rather for crushing and than for grinding or cutting. This is the case nd most of the monkey tribe. Thus, by the he grinders, the nature of the food may be at wn.

nt of the grinders or *molar* teeth, we find, in ibes that subsist entirely or in part on animal in some of the vegetable-feeders also, a single rojecting tooth on each side, which is termed rom its large size and prominence in the dog. y large in all the truly carnivorous animals, ables them to lay a firm hold of their prey. It ge, however, in some animals which are chiefly ous, as the boar; and in these it seems chiefly as an organ of offence and defence. Between es, and occupying the front of the jaws, are the or cutting teeth, the purpose of which is nearly in all animals which possess them, namely, to e food that is to be introduced into the mouth. ey are altogether absent, the food is obtained ngue. In the truly Viviparous Mammalia there r more than six incisors in each jaw.

variations in the form and arrangement of the ken in conjunction with the differences in the of the extremities, enable us to subdivide the *us* Mammalia into ten orders. In the first ey may be separated into the *Unguiculated*, g eight orders, and the *Ungulated*, containing . Of the former group, some have all three teeth, whilst others are deficient in one or hem.

unguiculated animals having three sorts of y be divided into the six following orders:—

ANA.—This contains man only, who is charac- eologically by the adaptation of his frame to posture, supported upon his posterior extre- ly, and by possessing *hands* (that is, feet osable thumbs) on the superior extremities

DRIMANA.—This order includes the apes, mon- , which have hands on all four extremities.

ROPTERA.—In this order, known as the bat anterior extremities are formed into wing- s, which enable the animals to rise into the irds.

CTIVORA.—The animals of this tribe, which the hedgehog, mole, &c., have the peculiar n of their teeth to insect food, just now de-

NIVORA.—In this very extensive group, of cat tribe may be taken as an illustration, the nifest, in the most remarkable manner, the n to devour animal flesh.

ACEA.—This order, properly restricted to those s of the whale tribe which feed on animal sub

stances, follows very naturally on the aquatic forms of the Carnivora; since its digestive system exhibits the same general character, although the adaptation of the extremities for swimming prevents them from showing the same form.

The two other orders of Unguiculated Mammalia are adapted partly to vegetable, and partly to animal food. They are—

7. Rodentia.—In these the toes differ but little from those of the Carnivora; but the jaws are deficient in true incisors, their place being supplied by the canines, which are brought very much forward (so that a wide interval exists between them and the molars), and are adapted to gnawing. This order includes the beaver, rat, hare, &c.

8. Edentata.—This order is so named from the absence of front teeth, sometimes also of canines, and even of molars. The extremities of their toes are nearly included in large nails, which approach in character to hoofs. To this order belong the sloth, ant-eater, armadillo, &c.

B. The *Ungulated* Mammalia form two orders only—those which *ruminate* (or chew the cud), and those which do not. The latter differ much amongst each other, but are associated into one order:—

9. Pachydermata.—In some of these the toes are still partly separated, in others they are entirely united. The food is mostly vegetable; all three kinds of teeth are sometimes present; in some the canines, and in others the incisors, are deficient. Besides the elephant, horse, hog, &c., this order properly includes certain aquatic forms, which have been commonly associated with the Cetacea, but which are strictly herbivorous, and approach very nearly to the hippopotamus.

10. Ruminantia.—This order, containing the ox, sheep, deer, &c., is a very distinct one, and is characterised by its cloven feet, the absence of incisors in the upper jaw, and the complex arrangement of the stomach, by which rumination is effected.

11. The sub-class *Ovo-vivipara*, is easily divided into two orders—the one having a pouch, or *marsupium*, in which the young are received and nourished for some time after their birth, and the other being destitute of it.

11. Marsupiata.—The animals of this order, which includes the opossum, kangaroo, &c., differ considerably amongst each other in their food and habits; and the arrangement of their teeth, or their *dentition*, varies accordingly. They have mostly three kinds of teeth, the incisors more than six in number, and their feet are unguiculated, with an opposable thumb, in some instances, on the hind foot.

12. Monotremata.—This is unquestionably the group which approaches most nearly to oviparous animals. It contains only two genera, in one of which the teeth are altogether absent; and in the other nearly so, the jaws being covered with a horny bill. In addition to five claws on each foot, the males have a peculiar spur on the hind ones, like that of a cock.

The foregoing arrangement, founded entirely on external characters, does not give an altogether accurate representation of the relative intelligence of the different orders. If this be taken as the guide, we should first arrange the Viviparous Mammalia into a *Zoophagous* (or animal feeding) and a *Phytophagous* (or vegetable-feeding) series, of which the former will rank highest on the whole, although the highest of the latter may surpass its lowest forms.

The *Zoophagous* subdivision will include the Bimana, Quadrumana, Carnivora, Insectivora, Cheiroptera, and Cetacea.

To the *Phytophagous* belong the Pachydermata, Ruminantia, Rodentia, and Edentata.

These last approach most nearly of the *Vivipara* to birds in the structure of their brains; but a still lower type is exhibited by the *Ovo-vivipara*, which are unquestionably the lowest of the Mammalia in point of *intelligence*.

Order I.—Bimana.

If we regard the possession of intellige peculiar characteristic of the class Mamma have no hesitation in selecting the order which Man alone belongs, as the *type* of being the form most unlike that of any ot on which this class borders. It has be pointed out, that there is an important con tween the high development of the bodily str of the intelligent powers of this class, and arity which distinguishes it from all others, prolongation of the period during which th dependent on its parent for support. And longation is greater in the human species, in to the whole length of life, than in any oth has evidently a direct connexion with the ult development of the mind and body of the off also a most important indirect influence on condition of the human race. Thus man, in the highest degree the characters which stated as distinctive of the Mammalia, is rig at the head of the class, although, as wil appear, he is surpassed by many other anima ticular portions of the bodily organisation.

The order Bimana includes but the sin *Homo*, or *Man*. Man is the only mammifero to which the erect position is natural, and in w is an essential difference in the organisation as of the two pairs of extremities. In those of th tribe whose form approaches most nearly t erect posture is not natural but constrained; of those agile movements so peculiar to the be exhibited, unless the body is supported well as behind. All the extremities of thes are alike formed as organs of prehension; in nivora, all are alike organs of prehension and in the hoofed animals, all are organs of suppo in man, the anterior or upper extremities are for prehension, and the posterior or lower ex support. When we examine these more par we observe that each pair is adapted to its p use in a higher degree than the extremiti monkey or any other animal. The foot of man and its surface expanded; and the leg bears upon it, the heel resting upon the ground. monkeys it is a sort of oblique continuation of as the hand of the arm, and supports the bo by its powers of prehension. The whole str the body is adapted to being exclusively supp the feet. The legs are so long, that man can he wished it, walk on all-fours; his short an inflexible foot, and his long thigh, would knee to the ground; whilst his widely-separat and his shoulders, which are but loosely att the trunk, would ill support the fore part of h

But by the adaptation of his whole fram erect posture, his upper extremities are left liberty, whilst his organs of sense are most fa situated for observation. The hand of man is to a far greater variety of purposes than th monkeys, in which it is most perfect. Its pe sists chiefly in the size and strength of the thum can have its tip brought into opposition with any of the fingers; and all these are capable moved separately. In none of the monkeys thumb be opposed to the fingers with any force, and in many their tips cannot be brou contact; so that, though admirably adapted ing round bodies of a certain size, such as branches of trees, their hands can neither minute objects nor support large ones. To th man some have attributed his superiority; b be safely said that he owes this to his mind a struments conjointly. The hand would be use out the mind to direct it; and mankind, if would soon be reduced to a very subordinate existence, if not speedily extinguished altogeth

Man, possessed of so remarkable a means

ı his mental ingenuity devises, is less pro-
rd both to acuteness of sensibility and to
ver, than many other mammalia. His
ınning is inferior to that of other animals
The smallness of his face, compared with
anium, shows that the portion of the ner-
:onnected with the external senses is less
ıim than in most other animals. Accord-
ırpassed by many in the acuteness of his
light, sound, &c. But he stands alone in
:omparing his sensations and drawing con-
them. Moreover, although none of his
ry acute in his natural state, they are all
, which is not the case in other animals;
capable (as is also his swiftness of foot)
:h improved by practice, especially when
s strongly call for their exercise.
ıvenability is one of the most remarkable
:s of the bodily as well as the mental con-
ıan. It is to a gradual advance in both,
ised races now enjoy so much of comfort,
s of still further elevation. In the pro-
ich these are attained, we observe a re-
'erence between the character of man and
animals. The arts of which these are
imited and peculiar to each species; and
:o be no evidence of a power of invention,
:tion for any purpose, beyond that to which
.nd instinctive powers are adapted. Hence
:ar that there is no proof of any species or
he lower animals ever making an advance
mprovement or an alteration in its condi-
ıere a particular adaptation of means to
ns to circumstances, is made by an indivi-
ten the case where some amount of intelli-
ionality exists), the rest do not seem to

much distinguished, then, from the lower
ıis mental as by his corporeal endowments.
: not of a *kind* altogether different from
we may elsewhere see. In common with
:ribes, he possesses strong instinctive pro-
ich are kept under control, however, in a
l mind. But when the reasoning powers
oped, as in early childhood and idiocy,
e sway of the instincts is obvious. The
passions and emotions are nearly akin to
whilst they give great activity to the opera-
mind, it is requisite that they should be
ıed by the intellect and will. This power
'egulation is one of the most striking cha-
of the human mind above that of animals,
ss like it reasoning faculties, often to no
, and are actuated by emotions and moral
ne of the most important aids to the use
ment of the human mind, is the power of
rticulate sounds, or language; of which, as
ıow, man is the only animal in possession.
doubt that many other species have certain
communication amongst individuals; but
robably very limited, and of a kind very
m a verbal language.
ı we study the physical and mental consti-
ın, the more are we led to the belief, that it
ıptation of the whole to a great variety of
:es that its great perfection consists. There
:ely any condition in which he cannot sup-
f. He is capable of sustaining the lowest
he highest extremes of temperature. His
rally of a mixed kind; but he can support
health and strength on either animal or
ıod exclusively. At the same time, it is by
s which his peculiar condition makes upon
e of his ingenuity, that his mental powers
led into active operation; and, when once
eir development has no assignable limit.*

*tailed inquiry into the characters of the different
tind, see the 4th number of the present series.

Order II.—Quadrumana.

The order Quadrumana, which takes its name from the peculiar conformation of the extremities of the animals composing it—all four of them having one of the toes opposed to the rest, like the thumb of man to his fingers—are remarkable for their facility in climbing, which they gain by the *grasping* power conferred upon them by the possession of *four hands*. Their anatomical structure refutes the common idea, that the upright position is natural to them; and it is certain that, though they may be taught in a state of captivity to walk erect like men, they usually support themselves by their anterior as well as their posterior limbs. It may be observed, that those species which approach the nearest to man rest upon the outer side of the foot only, and not upon its sole, when imitating his position; and that they are very insecure in it. And to those which are intermediate between the higher Quadrumana and the succeeding orders, the maintenance of the erect position without support for any length of time is impossible. It might be supposed that the possession of "four hands" is a character which raises the animals possessing it above two-handed man; but a little reflection will show that this is not the case, since the hand even of the highest Quadrumana is very inferior to that of man in complexity of structure and in the variety of movement to which it is adapted, whilst that of the lower shows but a slight advance upon the foot of the Carnivora. A corresponding series of gradations may be traced in the aspect of the face; for whilst, at one end of the series, the muzzle (at least in the young animal) is not much more prominent than it is in some races of man, at the other it nearly resembles that of other mammalia. Nevertheless, throughout the order, a certain degree of resemblance to man may be perceived, in the gestures as well as in the general aspect of these animals. All of them, like man and the Carnivora, possess three sorts of teeth; the canines, in the full-grown animal, are much more developed than in man; and there are intervals between them and the other teeth, which are not present in his jaws, but exist in all other mammalia.

Monkey.

The Quadrumana may be divided into three families —the Simiadæ, or Monkeys of the Old World; the Cebidæ, or American Monkeys; and the Lemuridæ, or Lemur tribe, which supply the place of monkeys in Madagascar and some parts of Africa and India. This restriction of distinct types of structure to different portions of the surface of the globe, is not a little remarkable; and it may be traced even in the subordinate divisions.

The Simiadæ include all the animals of the Old World known as apes, monkeys, and baboons—names which are commonly bestowed according to the development of the tail, the apes having none, the monkeys having a long one, and the baboons a short one. All these have *ten* molar teeth only in each jaw; and they have the partition between the nostrils very slender, so that the apertures are close to one another, as in man. On the other hand, all the Cebidæ are possessed of a tail, which is an extremely important organ to them, having great prehensile powers; they have *twelve* molar teeth in each jaw; and the partition between the nostrils is thick, so that the apertures are wide apart, as in the lower animals. The thumb of the hand, or fore foot, is not opposable; and it is entirely wanting in some of the genera. The Lemuridæ are distinguished from the monkeys, partly by the greater prolongation of the muzzle, the possession of a large bushy tail (which is not, however, prehensile), of opposable thumbs on all the feet, and of a crooked and pointed claw on

to man are to be found. Both these animals attain considerable size when full grown; probably in their native climate the former rising to five feet, and the latter to seven; but no living specimens of those sizes have ever been seen in this country. In both, there is a remarkable difference between the young and the adult form of the skull—the young bearing the greatest resemblance to that of man, whilst in the adult, the muzzle is so much prolonged, and the canine teeth are so much developed, as to give the face much more the aspect of that of the baboon. This difference, together with a change in the colour of the hair, has caused specimens of the orang, at different ages, to be accounted distinct species. The character of the animal also changes, being mild and gentle when young, but having a good deal of baboon-like ferocity when come to its full development. In the *Gibbons*, or long-armed apes, the length of the anterior members is so great, that they touch the ground when the animal is in a semi-erect attitude; these present an approach to the monkeys, in the possession of callosities on the buttocks by some of the species.

The *Monkeys* of the Old World are distinguished (in addition to the characters which separate them from the Cebidæ) by the possession of cheek-pouches, callosities, and a tail, which separate them from the apes; the tail is longer than in the baboons, the muzzle less protuberant, and the aspect less ferocious. The group contains, however, some species which present an approach to the apes, and others which form a transition to the baboons. The true Monkeys are also remarkable for the shortness of the arms in proportion to the legs, which causes some species to walk on all-fours with difficulty, climbing being their usual mode of locomotion; but, by common observers, they are still more noticed for the beauty of their colouring, their activity of movement, and gentleness of demeanour. Their character is much changed, however, by confinement. They are found in almost all the tropical countries of the Old World, and particular genera have a peculiar local distribution. Many of them live in societies, chiefly inhabiting the woods, but committing great devastations on any cultivated ground in the neighbourhood. In several species the aspect of the head is extremely grotesque, as are also the attitudes of the animal. The number of species is altogether considerable. Their food seems to be rather vegetable than animal; and in one genus this is distinctly indicated by the structure of the teeth and of the stomach. One genus, restricted to Africa, is destitute of thumbs on the anterior extremities, and the deficiency is partly supplied by the great development of the tail, which is not, however, prehensile, as in the American monkeys.

The *Baboons* have usually a short tail, or none at all; but there is much variation in this respect. They are rather distinguished from the apes and monkeys by the protuberance of the muzzle, and the ferocity of aspect which is partly dependent upon this; the canine teeth are generally large and strong. The Baboons have also a large bag connected with the organ of voice, by the resonance of which the power of their loud and discordant cries is greatly increased. In a state

Cebidæ are generally of smaller size than the
none of them attaining nearly the dimensio
chimpansee, orang, or mandril; they are
malicious, more easily tamed, and susceptible
constant attachment; but they seem to posse
telligence. They are found in very large nu
the woods of South America, where they chie
on vegetable food, to which their teeth show a
adaptation. The largest of them are the *A*
howling monkeys, which derive their tremendo
of voice from a sort of hollow drum connected
larynx (somewhat resembling that of the
which is peculiar to them amongst the Cebida
are shaggy animals, about the size of a fo
Ateles, or spider-monkeys, are remarkable
length and prehensile power of their tails, an
absence (in some species entire, in others nea
plete) of the thumb; whence they are call
fingered monkeys. A large number of other
including many species, might be enumerate
of these are remarkable for their nocturnal hal
others for their carnivorous propensities.

3. The third family of Quadrumana, that o
RIDÆ, has in many respects the general aspe
American monkeys; but the muzzle is much pr
resembling that of insectivorous or carnivor
mals; the teeth, also, are modified for anim
presenting sharp tubercles, locking into eac
and the grinding motion of the lower jaw is
so that its action possesses more of the scis
character of that of the animal-feeders. T
thumbs of these animals are well developed a
sable; the claw-like aspect of the nail of the f
finger has been already noticed as one of the m
recognised characters of the family. The ca
the lower jaw have the character of additional
and the first molars resemble the ordinary
The total number of teeth in each jaw is eigh
in the American monkeys. The *true Lemurs*
tinguished by their very large and handso
which are elevated when the animals are in
and not trailed after them. They average the
a large cat, but have longer limbs. They are n
or twilight animals, passing the day in sleep, r
in the form of a ball; at night they rouse the
and spring with the greatest activity in search
food, which principally consists of fruits. Th
entirely confined to Madagascar, where at least
species are known to exist, differing from ea
but little except in colour. On the other h
Galagos, which are found in the neighbourhoo
River Senegal, are pre-eminently insectivorous

This group is connected with the Chi
very remarkable animal—the *galeopithecus*, c
lemur, which so much resembles the bats, as
been placed with them by many naturalists
however, a *lemur* in all its essential character
has its limbs connected by thin skin, which they
out, as the framework of an umbrella supports t
ing. By this singular structure the animal is s
in the air, as by a parachute; but it has not th

sustaining a continued flight, though it can leap a
tance of a hundred yards with a gradual descent.
ke the bats, it feeds on insects, and sleeps with its
ad downwards, suspended by its hind legs. It is a
tive of the Indian archipelago.

Order III.—Cheiroptera.

The order Cheiroptera (formerly arranged by Cuvier
the first family of the order Carnaria) is perhaps the
st distinctly circumscribed group of the whole class
ammalia; for all the animals composing it agree in
possession of a pair of wings, formed by an exten-
n of the skin over the very elongated fingers of the
e legs, and connected also with the hind legs, by
ich they are adapted to raise and sustain themselves
the air, and also to propel themselves through it by
ular continued movements, in precisely the same
nner as birds. Now, although in other groups we
y observe a tendency towards the same adaptation,
s never carried farther than to give to the animal
sessing it the power of partially supporting itself in
air, so as to prolong its leaps, as is the case with
flying-squirrel, the flying-lemur, and flying-oposs-
n. None of these animals can really *fly*, like bats
l birds.

We see in the bats a very interesting modification of
whole character of the mammal, to enable it to lead
life of a bird, just as in the whale tribe we see a
ilar adaptation to the life of a fish. The insectivo-
s bats bear a strong analogy to the swallow, in the
racter of the food itself as in the mode in which they
ain it—by the rapid pursuit of insects on the wing;
chief difference in habit being the time at which
y respectively go forth in search of their prey.

The whole structure of the Cheiroptera is obviously
ted to the fulfilment of the object which is the dis-
uishing character of the group. All the bones of
upper extremity, as well as those which give at-
hment to its muscles, are very largely developed.
e member itself, although consisting essentially of
same parts as in man, has its aspect greatly changed
the extraordinary prolongation of the finger bones,
on which chiefly the skin of the wings is stretched.
is skin is extremely thin, and is generally devoid of
r on both sides. It extends not only between the
gers, but from the last finger to the posterior extre-
ty, and from this to the tail, where one exists. This
pansion of the tail probably serves as a rudder, en-
ling the animal to change its course rapidly in pur-
t of its insect prey—an idea which is supported by
fact, that in the bats which feed on vegetable sub-
nces, or on animals which require less activity of
suit, this part is either wholly wanting or is much
cumscribed in extent and power.

The four fingers of the anterior extremity being
olved in the expansion of the membrane, only the
mb is left free; this is of moderate length, and is
nished with a crooked nail, which is of great use to
e animal in climbing and making its way along the
ound. The toes of the hind feet are short, and fur-
shed with claws, by which the bats suspend them-
ves from the trees or walls on which they rest, hang-
g with the head downwards. They walk with slow-
ss and difficulty when placed on the ground; the
ngs are folded up; and they rest upon the hind feet,
d upon the claw of the thumb, by which they crawl
rwards, pushing on first one side and then the other.
t they can climb up perpendicular surfaces with
nsiderable agility. The expanded skin of the wings
pears to be endowed with a sensibility of a peculiar
nd, enabling the animals to perceive their proximity
solid bodies without the assistance of sight. That
ey have a very acute perception of this kind was long
o shown by the experiments of Spallanzani, who
und that bats deprived of sight, and, as far as pos-
le, of hearing also, were still capable of directing
eir flight with security and accuracy, finding their
y through passages only just large enough to admit
em without coming in contact with the sides, and even
avoiding numerous small threads which were stretched
across the room in various directions—the wings never,
even by accident, touching them. It is probably through
the vibrations of the air, which will differ according as
the wing strikes it in the neighbourhood or the absence
of any solid body, that the knowledge of the proximity
of such is communicated to the delicate and expanded
organ of touch. The use of this curious power to ani-
mals intended to execute rapid and varied movements
in the dark, and amongst trees, buildings, &c., is suffi-
ciently evident.

This tendency to a great extension of the skin is
manifested in other parts of the body. In many bats,
especially of the insectivorous kind, the external ear is
enormously developed; being, in the long-eared bat of
this country, nearly as long as the body. In the fru-
givorous bats, it is of ordinary size. The organ of
smell, too, in many of the insectivorous bats, is fur-
nished with curious leaf-like appendages, formed of the
integument doubled, folded, and cut into the most cu-
rious and grotesque forms. The group in which these
are most remarkable, is one which avoids the light of
day even more than others; the animals composing
it exist almost constantly in the darkest recesses of
caverns; and it is probable that, by this peculiar con-
formation, they gain increased power and delicacy of
the sense of smell, which in part compensates for the
inutility of the organs of vision.

The families composing this order, may be arranged
under two principal divisions, which are strongly con-
trasted with each other in regard to the nature of their
food, the conformation of their teeth and digestive
system, and the peculiarities of structure which are
connected with the mode in which food is obtained.
One of these groups, which may be regarded as typical
of the order, is insectivorous; the molar teeth are fur-
nished with pointed tubercles, as in the order Insecti-
vora; and the stomach and digestive system are evi-
dently adapted to animal food. The other group is
probably omnivorous, like many of the monkeys—feed-
ing chiefly on fruits, but pursuing small birds, or large
insects, that may be obtained without much difficulty;
their molar teeth have flattened crowns, adapted for
bruising and grinding their food; and the complex
structure of the stomach and intestinal canal shows its
adaptation to a vegetable diet. The proportional length
of the intestine, in specimens of these two groups, is a
remarkable illustration of this difference of adaptation.
In the great bat of this country, belonging to the former
group, it is only twice the length of the body; whilst
in the frugivorous *pteropus* of the tropics, it is seven
times.

The insectivorous group may be distributed into four
families:—1. Rhinolophinæ: in these, the nose-leaf
is of complicated structure, and is membranaceous;
the index or forefinger has but one joint; the wings
are large and broad. 2. Phyllostomina, which have
the nasal appendage simple and fleshy, and an index-
finger of two joints. 3. Vespertilionidæ, which are
destitute of nasal appendages, and have a single joint
in the forefinger. 4. Noctilioninæ, which are also
destitute of nasal appendages, but have two joints in
the index-finger.

1. To the first of these families, the Rhinolophinæ,
belong the greater and lesser *horse-shoe bats*, which are
found in the darkest and most secluded retreats of our
own country; their name is derived from the peculiar
form of the anterior nasal appendage. The family
contains many other genera and species, most of which
are inhabitants of the Old World.

2. To the second family, the Phyllostominæ, belongs
the celebrated *vampyre*, of the blood-thirsty propen-
sities of which such marvellous stories have been told.
The wound inflicted by its teeth is very small; but its
tongue is endowed with a peculiar power of suction,
by which a considerable amount of blood may perhaps
be drawn. There are no well-authenticated accounts
of the death of any animal having been occasioned by
this creature; and the story of its fanning its victim

with its wings to keep him cool, and render his sleep more profound, is probably a fiction of the imagination. Some of these bats have the tail very short, and in others it is altogether absent. They appear to feed in part upon succulent fruits; but there is one genus, the extreme shortness of whose intestine indicates that it must derive its food from animal matter almost exclusively. One of these has been taken in the act of sucking blood from the neck of a horse. The vampyres are confined to South America; but other members of this family inhabit the eastern hemisphere. Many of them attain considerable dimensions; the body being equal in size to that of a magpie, and the wings, when expanded, measuring between two and three feet across.

3. The third family, VESPERTILIONIDÆ, is by far the most numerous, and includes most of the bats of temperate climates. At least thirteen species exist in this

Long-eared Bat.

country, the largest of which is the mouse-coloured bat, the expansion of whose wings measures fifteen inches; but this is of rare occurrence. A more common one is the noctule, or great bat, which is but little smaller; this is often met with in considerable numbers, seeking its retreat sometimes in the hollows of trees, at others under the roofs and eaves of houses. Probably the most abundant is the long-eared bat, which is easily distinguished by the character implied in its name. Its ears are folded downwards during hybernation or profound sleep. It is easily tamed when in confinement, and may be brought to considerable familiarity, so as to eat from the hand. It has an acute and shrill but not loud cry.

4. The bats of the fourth family, NOCTILIONINÆ, are almost exclusively confined to tropical countries. The number of species belonging to this group is very large, but few of them present any important peculiarities.

5. The frugivorous or omnivorous group contains but one family, the PTEROPINÆ. This is widely diffused throughout warm climates, and contains some of the largest species of the order. It is not improbable that the fabulous harpy may have had its origin in some of these. None of them have the tail much developed, and in many it is entirely absent. The *pteropus Javanicus* is a very characteristic example of this family. It is probably the largest of the bats—its expanded wings measuring five feet across. It is extremely abundant in the lower parts of Java, and uniformly lives in societies. They suspend themselves from trees during the day; and, from their motionless aspect and contracted bodies, they might be mistaken for parts of the tree, or for fruit suspended from its branches. When night comes, they begin to move, and go in search of food to the forests, villages, and plantations, in all of which they do great mischief, attacking indiscriminately almost any kind of fruit, of which they devour a large quantity. In their turn, they are eaten by the human inhabitants of some of the countries where they abound, who consider them as delicacies. The flesh of the common rousette of the Mauritius has been compared to that of the hare and partridge.

The Cheiroptera, inhabiting temperate clim
remain in a torpid state during the winter.
them make their appearance, however, in mi
but as casual revivals during the season of r
injurious to them, they usually betake them
places of which the temperature is not readil
by external vicissitudes. The office of this
the economy of nature, is evidently to assist
restraining the too rapid multiplication of ins
to keep down the luxuriance of tropical veget

Order IV.—Insectivora.

The order Insectivora forms a group which
mediate between the Cheiroptera and the C
Like the greater part of the first-named of thes
the animals composing it are formed to live up
food; their molar teeth are beset with pointe
tubercles, adapted to crush the hard envelope
prey; and they are, for the most part, like t
nocturnal animals—like them, too, passing th
of temperate climates in a state of torpidity.
are completely destitute of the wing-like ex
which enable those animals to rise into the air
of their prey; it is *their* function to seek it u
ground, or even by burrowing beneath it. H
their general organisation, they more resemble
nivora; but they retain the clavicle (collar-bon
higher orders, which in the Carnivora is redu
ligament, and this affords, in the burrowing sp
very important attachment to the powerful mu
which their anterior members are put in actio

The teeth in this order are extremely varia
cannot be so safely followed as guides to class
as the general structure and habits. All the
belonging to it possess the peculiar conformatio
molars already described; the front molar, how
usually of a form adapted for cutting, like thos
Carnivora; but posterior to this, there are g
three with conical tubercles. The disposition
incisors and canines is very variable; in some
they are long, and in others short, and the f
all the teeth are often so much changed that it
cult to assign them to their respective classes.

This order may be divided into four families
are characterised by their habits as well as b
external form and internal structure. 1. TALP
Mole tribe. These are pre-eminently subter
and are distinguished by their extraordinary h
forming long and complicated burrows under
passing their whole lives in these retreats, in wh
are born, feed, breed, hybernate, and die. 2. SO
or *Shrews*. These are a sort of carnivorous mice,
though they do not actually burrow, retreat dur
winter, and in their ordinary repose, into hole
feed, however, on the surface or in the water,
of them being partially aquatic, diving with
after aquatic insects, and remaining without d
a long time under water. 3. ERINACEADÆ, or *Hed*
Here we have still hybernating animals, but in
burrowing or descending into deep excavation
conceal themselves at or near the surface, wh
find their food. The hair is converted into sp
considerable firmness. 4. TUPAIADÆ, consistin
single genus, the *Tupaia*. These partake of t
racter of the Insectivorous Quadrumana, living
which they climb with the agility of a monk
squirrel.

It is remarkable that, as far as yet known, no
of this order exist in South America or Austra
the former continent their place seems to be
by the Edentata, of which many species are s
their food and habits; and in New Holland t
replaced by numerous small Marsupialia, ha
same general adaptation of their structure t
food and to an underground residence.

1. Of the TALPIDÆ, the common English m
very characteristic example. The whole stru
this animal is beautifully adapted to the subt
life which it leads, and to the mode in which

TERRATA.

arkable not only for their covering of spines, but the great development of the muscular envelope of body immediately beneath the skin (especially on back), which in most other animals is scarcely perptible. By this they are enabled to roll themselves o a ball, presenting a panoply of sharp spines to their emies. These are not only strong enough to resist acks, but are sufficiently elastic to enable the animal throw itself down upon them from considerable ights. So that, although destitute of all means of nching its enemies or of defending itself by force, d not able to seek safety in flight, the hedgehog is dowed with a safeguard more secure and effectual an the teeth and claws of the wild-cat or the fleetss of the hare. In its natural state the hedgehog is cturnal, remaining coiled up in its retreat by day, d moving about all night in search of food. Its run quick and shuffling, and as it were by starts. Insects, rms, slugs, and snails, form the usual food of the dgehog; but it will also devour frogs, toads, mice, d even snakes; and has been known to feed on eggs d vegetable substances. It is easily rendered familiar th man and with other animals. Other species of is family connect it with the previous and succeeding oups, the spines not differing so much in size and ength from hairs, and the power of rolling up the dy being absent.

4. The last family, that of TUPAIADÆ, or *Banxrings*, is very remarkable one. It is confined to the Indian chipelago, and has not been long known to exist. eir teeth chiefly resemble those of the archiens, with slight tendency towards the lemurs; and, like this st group, their eyes are large and prominent. They e covered with hair, which is soft and glistening, but t fine in texture, and have a long bushy tail. Contrary the habits of other Insectivora, they ascend trees with e agility of a squirrel; from which animal, however, eir pointed muzzle renders them easily distinguishle, even at a distance. They are readily tamed, running freely through the house, and coming of themlves at every meal for fruit or milk.

Order V.—Carnivora.

The animals composing the order Carnivora are, like e four previous orders, separated from the other mmalia possessing distinct fingers by the presence three kinds of teeth; and from those orders they are stinguished by characters which point them out as pecially formed for the pursuit and destruction of rge animals. They possess in the upper and lower w six incisor teeth; a large, strong, and pointed nine tooth on each side; and molar teeth, which are idently formed for cutting and tearing rather than r bruising or grinding. The form of these teeth ries, however, in the different genera, in accordance ith their several habits. These molars consist of three nds: the anterior, immediately following the canines, hich are always more or less pointed, and are termed *se molars*; the next class, formed especially for cutng the flesh upon which the animals feed, are termed *rnivorous teeth*; and the posterior are tuberculated, ith flattened summits.

The proportion which these different classes bear to ch other in number and development, accords with e degree of the carnivorous propensity of the animal, d furnishes important characters in the subdivision the order. The more the surface of the molar teeth raised into points and edges, and the more the action the jaws is restricted to the scissors-like movement which these edges are made to meet and pass each her, the more purely carnivorous is the regimen of e animal: this is well seen in the Cat tribe. On the her hand, the more the molar surfaces are flattened, d the greater the lateral grinding motion of which the ws are susceptible, the greater is the probable admixre of vegetable food: this is seen in the bears. The neral structure of the body, and especially that of the tremities, is modified in a corresponding manner, in cordance with the habits and progressions of the ani-

mal. In all, the toes are furnished with claws, which are peculiarly sharp in the cats, and are in them kept ready for use within a sheath, from which they can be projected at the will of the animal. The stomach of the Carnivora is very simple in its form, and the intestines are short, in accordance with the easily digested character of their food.

The whole bony and muscular system exhibits a similar modification. Thus, whilst the powerful yet active and flexible movements of the purely carnivorous animals are adapted only to the pursuit and destruction of living prey, the more sluggish habits of most of the Bear tribe, their peculiar mode of progression, and the modified structure of the skull, the teeth, and the limbs, are all equally applicable to the mixed nature of their food. The difference in the conformation of the extremities, and in the mode of using them, is very striking in these two antagonised groups. In the former, the ends of the toes only touch the ground, the heel being considerably raised into the air; in this way, the limbs can be used to much greater advantage in running and springing: the animals possessing this conformation are termed *digitigrade* Carnivora. In the latter, the whole foot rests on the ground—a structure more favourable to the maintenance of a firm position, but preventing great activity of progression: these are called *plantigrade* Carnivora. There is a third very remarkable variety of conformation in the extremities of this order; and this is exhibited in the Seals. Here the anterior as well as the posterior feet are formed for swimming, being spread into fin-like paddles; and the whole arrangement of their organs is admirably adapted to the pursuit and capture of their scaly prey.

The Carnivora may be subdivided into five families, each containing a well-known form. 1. Felidæ, or *Cat* tribe. In these the destructive power is most highly developed. They are characterised by their short powerful jaws, their retractile claws, and the peculiar adaptation of their teeth for cutting. They have but one small flattened molar tooth above, and no corresponding one below. 2. Canidæ, or *Dog* tribe. These, like the cats, are digitigrade; but their claws are not retractile; and they have two flat tuberculated molars behind the great flesh-cutter. 3. Mustelidæ, or *Weasel* tribe. These are mostly semi-plantigrade, a portion of the sole touching the ground. They are distinguished by their long narrow bodies, and by the presence of only one tuberculated molar. 4. Ursidæ, or *Bear* tribe. These are the only true plantigrade Carnivora. Most of them possess several tuberculous teeth. 5. Phocidæ, or *Seal* tribe. These are at once distinguished by the adaptation of their form and structure to a residence in the water; and of their teeth for holding the slippery surface of fish, and crushing them before they are swallowed.

1. The *Cat* tribe includes a large number of animals very closely resembling each other in structure and aspect—so closely, indeed, that many of the species can only be distinguished by their size, and by the markings of their skin. They all agree, too, in the mode of catching their prey, which is to steal upon it unawares, and seize it with a sudden spring, in which they expend their energy, often slinking off when once baffled. It is very difficult to subdivide the family, on account of the strong general resemblance of its members. Most of them are sufficiently well known to render any peculiar description of them unnecessary. It may, however, be remarked, that some species are found in almost all tropical and temperate countries, and that those of different parts of the globe *represent* each other in a remarkable manner. Thus, the *lion* and *tiger* are inhabitants of Africa and tropical Asia; in America they are replaced by the *puma* and *jaguar*, which are confined to that continent. In the same manner, we find the *panther* and *leopard* spread over tropical Asia and Africa; the *caracal* inhabiting the Asiatic mountains; the *caracal* in India and Persia, and the *lynx* of Northern Europe. These are represented by the *ocelot* in South America, the *lynx* of Canada (differing from the European species) and other less known species. The Felidæ, like the noble falcons, will only eat the flesh of animals which have themselves killed, except when in a state of domestication or confinement, or when compelled by hunger.

Lion.

2. The family of Canidæ includes a much larger number of different forms, some of which approach to the Cat tribe, and others to the weasels and bears. This tendency to variation from a typical form is remarkably shown in the races of the common dog, which are believed to have all had the same origin, although the commencement of most of them is entirely unknown. The animals of this family agree in a greater or less adaptation to a mixed diet. All animal flesh naturally constitutes the principal food; all, they do not attack living animals with a degree of boldness proportional to their strength, and many of them feed upon carrion, sometimes even when much putrefied. The *wolves*, *foxes*, and *jackals*, animals which most nearly approach the dog; and the first of these it is regarded by many naturalists being really identical.

The *Hyænas* constitute a group remarkably distinct from the true Canidæ, and yet bearing enough characters to require to be associated with them. They are more purely carnivorous than the dog tribe, approach in the deficiency of tuberculated molars the cats. But they differ from these, not only in general aspect, which is much more nearly allied to the dog, but also in the absence of the retractile power of the claws, and in their propensity to feed on carrion. The teeth are peculiarly adapted for crushing, and their jaws are shorter than those of the dog, longer than those of the Felidæ. In many other points of structure, the hyænas are intermediate between the two groups. They are peculiarly ferocious animals, combining the persevering *doggedness* of the one with the furious bloodthirstiness of the other. Their habits are nocturnal—more so than those of most other Carnivora. Hyænas are now chiefly confined to Africa and the south of Asia; but there is no doubt, from the abundant remains of them which are preserved, that they must have formerly lived in large numbers in this country, and in other parts of Europe. To the Hyænas may be associated the *Civets*; the *ichneumon* of Egypt, which restrains the multiplication of crocodiles by feeding on their eggs.

3. The Mustelidæ are the most *bloodthirsty* of the Carnivora; but they are not so much addicted to devouring *flesh* as are the Felidæ. These animals, on account of the length of the body and the shortness of the limbs, which permit them to pass through small openings, are called *vermiform*. All the members of this family are semi-plantigrade; and they conduct us to the truly plantigrade Carnivora. The *weasel* of this country is a very characteristic example of the family; it is one of the most sanguinary, but confines itself chiefly to small animals, destroying large numbers of mice, rats, moles, &c. The *ferret*, which is an allied species, is bolder, having been known to attack man; and the *polecat* is a great enemy to the farm-yard, game-preserve, and warren. All these animals have a strongly and disagreeably odorous secretion from a pouch under the tail; but it is most disgusting in the last. The *Otters* constitute an aquatic form of this family, having the same general adaptation of dentition with the weasels, but being readily distinguished from all other genera of the family by their webbed toes and horizontally flattened tail. They feast on fish.

4. The true plantigrade Carnivora, consisting

f Ursidæ, participate in the comparative slow and nocturnal life of the Insectivora; and like o, the species which inhabit cold countries pass ter in a dormant state. In the *Bears*, the car- the nose is elongated and moveable, somewhat ing that of the Shrews. These animals possess facility, from the structure of the sole, of rear- nselves up on their hind feet; and this may be ly noticed in such as are, like the bears, fruit- becoming carnivorous only from necessity; they s enabled to climb trees in search of food. The re the largest of the family; and some species are pretty widely diffused over the globe. The , which resemble bears in miniature, with the n of the greater length of the tail, are confined ew world.

Badgers, *Tarels* or Badgers of America, and the *nes*, form a tribe connecting the Bears with the dæ. The *badger*, for example, is only semi-plan- and has a dentition very like that of the weasels ers, but adapted for a less carnivorous regimen. nas the tardy gait and nocturnal habits of the lantigrades; it does not, however, become tor- inter. All these animals, like the weasel tribe, e power of emitting a fetid odour at will.

ie last family, that of Phocidæ (the Amphibia er), is sufficiently distinguished from all the rest peculiar adaptation of the animals composing it rine residence. Their feet are so short, and so ed in the skin, that they are of little use in pro- on land. In fact, the seal employs them only lambering, wriggling itself forwards along a rface by the action of the abdominal muscles. ervals between the toes are occupied by mem- so as to convert the feet into oars. The body hened, and the spine very flexible, as in the and Fishes; and the animals are covered with close fur, sitting flat upon the skin. All these ions combine to render them able swimmers; y pass the greatest part of their time in the which they only quit to bask in the sunshine uckle their young.

ie two genera, the *Seal* and the *Morse*, which ily contains, the former presents the least de- from the general type of the order, being , as to its teeth and digestive organs, for animal ie latter group is chiefly herbivorous.

Order VI.—Cetacea.

e order Cetacea, or *Whale* tribe, the adaptation mammiferous structure to the life of a fish is markably displayed. The whole body is formed exclusive residence in the water. The posterior ities are no longer present, as in the seal, to a progression on land; nor are the toes of the furnished with claws. The trunk is prolonged hick tail, which terminates in a horizontal car- us fin, by the vertical movement of which the ion of the body is effected. The head is very nd is connected with the body (as in fishes) by so d thick a neck, that no diminution of its circum- is perceptible; and the cervical vertebræ, which l (as in all Mammalia) seven in number, are in, and partly united together. The bones of and fore-arm are very short; and those of the e flattened, and enveloped in a tendinous mem- which reduces them to the condition of fins. their whole aspect is that of fishes, except that e not covered with scales, and that they have -fin expanded in the contrary direction. The of this last provision is to enable them more to come to the surface to breathe, which they iged frequently to do. The largest species can , however, for an hour under water. Their blood, t of other Mammalia, is warm; and to prevent nal temperature from being rapidly lowered by ducting power of the water, they are furnished thick coating of fat over the whole body. There are never any external ears, nor hairs upon the body. In these general characters, some other whale-like animals, now separated from the true Cetacea, agree; but they differ in being adapted for vegetable food, whilst the true whales are all animal-feeders, and are, therefore, properly associated with the Carnivora, to which they make a near approach through the seal. It is evident that the want of claws should not exclude them from this division of the Mammalia, since these are rendered useless by the adaptation of the animal to an exclusively aquatic residence. Some of them, which feed upon large marine animals, seize their prey with their jaws, whilst others, which derive their support from the smaller kinds, engulf them, with a large quantity of water, in their capacious mouths.

The true Cetacea are further distinguished from those herbivorous forms which are now associated with the Pachydermata, by the remarkable conformation from which they receive the name of *Blowers*. As with their prey they necessarily take in a great volume of water, a means of getting rid of this is required, and it is accordingly transmitted through the nostrils, and expelled by a strong muscular action through a narrow aperture pierced at the summit of the head. It is thus that these animals produce the jets by which they are observed at a great distance. Their nostrils, being continually bathed in water, are not adapted to a delicate perception of odours; and their organs of hearing, being deficient in the external ear, and otherwise formed on a lower type, are also probably incapable of very acute perception of sound. But what is deficient in these respects seems to be compensated by a very high degree of sensibility of the general surface; and there is reason to believe that, by this diffused sense, whales are enabled to take cognisance of what passes in the water at a considerable distance, through the medium of the vibrations excited in the fluid.

In subdividing this order, the *dentition* does not afford much assistance, for the teeth are frequently absent altogether; and among the species which possess them, they often exhibit great differences, when the animals are closely allied. Where they exist, they are mostly small, numerous, and of a conical form, similar to each other. These animals do not chew their food, but swallow it whole. The stomach is usually of a rather complex form. The order may be divided into two families, according to the relative size of the head and body. In the first, Delphinidæ, or the *Dolphin* tribe, the head is not out of the usual proportion; in the second, the Balenidæ, or *Whale* tribe, it is immoderately large.

1. The Delphinidæ have teeth throughout both jaws, all simple, and nearly always conical. They are the most carnivorous, and, in proportion to their size, the most cruel of their order. The common *dolphin* has its snout prolonged into a kind of beak. It is extremely agile in its movements; and a number are often seen sporting together on the surface of the water. Nearly allied to the dolphin is the *porpoise*, which has a short muzzle. This is one of the smallest of the Cetacea, not exceeding four or five feet in length, and is very common in various parts of the Atlantic, assembling in vast herds. Allied to the porpoise is the *grampus*, which has large conical teeth, and is the most powerful of this family, attaining the length of from twenty to twenty-five feet. It is a cruel enemy to the whale, which it attacks in troops. Other species of this family are known on our coasts by the names of *white whale*, *bottle-nose*, *narwhal* or *sea-unicorn*, &c. This last animal is remarkable for the enormous development of a single tooth or tusk, commonly reputed to be a horn, whence the name commonly given to the species. In the general form of the head and body it agrees closely with the porpoises; but it possesses no other teeth than this tusk, which projects forwards, apparently from the centre of the upper jaw, to the length of ten feet. The animal really possesses, however, the germs of two tusks, of which only one is generally developed. That on the left side usually attains its full growth, whilst

the other remains permanently concealed within its socket.

2. The remaining Cetacea, constituting the family Balænidæ, have the head so very large as to constitute one-third, or even one-half, of the entire length; but neither the cranium nor the brain participate in this disproportion, which is entirely due to an enormous development of the bones of the face. This family contains several remarkable and important animals, amongst which the following may be noticed:—The *catodon*, or spermaceti whale, receives its technical name from possessing teeth in the lower jaw only; these are of considerable size, and lock into cavities in the upper jaw when the mouth is closed. The superior portion of the enormous head consists almost entirely of large cavities, separated and covered by cartilages, and filled with an oil that concretes in cooling, and is known by the name of spermaceti. This is commonly, but erroneously, reputed to be the brain of the animal; the cavities which contain it, however, are very distinct from the true cranial cavity, which is rather small, and lies at the posterior portion of the head. Cavities containing spermaceti are found in various parts of the body, even ramifying through the external fat or blubber, and these communicate with those in the head. This whale is extensively distributed through various seas, but chiefly abounds towards the antarctic region. It sometimes attains the length of seventy feet.

The *balæna*, or Greenland whale, equals the catodon in size and in the proportional length of the head, which is not, however, so much enlarged in front. Instead of teeth, the mouth is provided with a number of vertical plates, terminating in fringes, which are composed of a sort of fibrous horn, and may be regarded as a kind of prolongation of the gum. These fringed plates, commonly known as whalebone, serve to retain, by straining from the water, the minute animals on which these enormous beings subsist. Their food consists partly of fishes, but chiefly of soft mollusca, acalephæ, &c. The blubber is of immense thickness, and furnishes a large quantity of oil—a hundred and twenty tons being sometimes obtained from a single individual. The whalebone also is an important object of pursuit. This animal was formerly not very uncommon in our seas, but has now retired to the far north, where its number, in consequence of the attacks of man, is constantly diminishing. The *rorqual*, an allied species, attains to still greater size, having been seen of the length of a hundred feet.

Fig. 2.—VII. Rodentia.

The order Rodentia [illegible] as well as habits of the animals composing it, which are, for the most part, very [illegible] they are very widely diffused, and have [illegible] The species of this is found in [illegible] Nova Hollandia, and some [illegible] very [illegible] [illegible] [illegible]

ATA.

known species inhabits the south of Italy, Spain. It is nearly the largest of the Ro- measuring almost three feet in length. There rican genus nearly allied to the true porcu- has a long prehensive tail, like that of the and lives in trees.

next family, that of Caviidæ, contains the ed animals of this order, although, when with ordinary quadrupeds, they would be all. They are naturally restricted to tropical where they replace the hares and rabbits of ites. But the *guinea pig* is now extremely n Europe, and is quite domesticated. The an inhabitant of the sides of nearly all the s of South America, and is the largest known the order, being about three feet in length, size of the Siamese pig. It has a large thick muzzle, is destitute even of the rudiments of l is scantily covered with bristly hairs. Its

The Capybara.

tic habits are shown by the webbing of the this structure it can both swim and dive with city. Upon land it makes but little progress, edly, and generally diving in the water to ger. It lives in small societies, and seems to rnal feeder. Another of the Caviidæ is the ich is an inhabitant of the Antilles and tro- ics. It is about the same size as the Euro- ; but, in regard to its food, and its manner of rather resembles the squirrel, preferring rbage, and sitting upon its haunches whilst

animals of the small family Chinchillidæ l recently known only by their skins, which an important article of commerce. In their ganisation they seem intermediate between and rabbits, but differ from both of them in clavicles. They are all natives of South chiefly inhabiting the range of the Andes, ive socially, in extensive burrows.

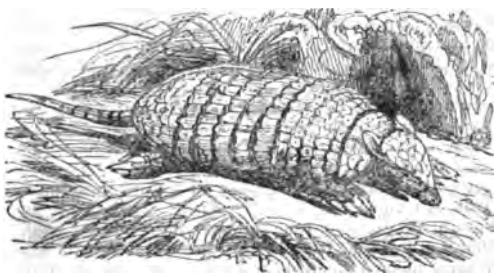
Leporidæ constitute the last family of the and are distinguished from the rest by the f two small incisors behind the rodent teeth. and habits of the typical genus, *Lepus*, are well known in the *hare* and *rabbit* of this A large number of species exist in the diffe- of the northern hemisphere, and some are a of the Arctic regions. There is one species ntry, in which the brown fur, that forms its oat, changes to white at the approach of he hare is a ruminating animal, though with- uliarly complex stomach of the Ruminantia.

Order VIII.—Edentata.

mals composing the order Edentata cannot ed by any general positive characters which hem from other groups; for there is a con- lissimilarity in the entire structure and habits erent species. The chief point of agreement em is a negative one—the absence of incisor the termination of the extremities in hoof,

white ants), whence these insects are withdrawn by being entangled in the viscid saliva that covers it. Their fore-nails, strong and trenchant, enable them to tear open these nests, and also furnish them with an effective means of defence.

Most of the other true Edentata are burrowing animals, and are covered with a dense armour, composed of hard scales arranged in a *tesselated* manner, or fitted together like stones in a pavement. Between the different bands of these, there are narrow rings of membrane, which allow the body to bend. They have claws adapted for digging, seven or eight cylindrical molars on each side, and a tongue but little extensible. Of these animals the *Armidillos* are the chief, and are the forms best known. They subsist partly on vegetables and partly on insects and carcasses. Some of them appear to prefer putrefying animal matter; and many are nocturnal feeders.



Poyou or Six-banded Armadillo.

2. The animals belonging to the family TARDIGRADA are at once known from the true Edentata by the peculiar shortness of the muzzle. The name of the family is derived from that commonly applied to the animals composing it. In the *Sloths*, according to Cuvier, "nature seems to have amused herself with producing something imperfect and grotesque." And if we consider the peculiarities of their organisation in reference to the ordinary habits of mammiferous animals, this an-

habitation removes them out of the reach of voracious animals, by which the race might be extirpated.

There have been found in South America try to which the existing Edentata are als —remains of some enormous extinct anim ing evidently to the same group. Of one *megatherium*, nearly the whole skeleton h studied, by comparing different imperfect and there can be little doubt that it belo gantic animal intermediate between the sl eaters. Its haunches must have been ne feet wide; and its body fourteen feet lon high. Its feet were a yard long, and te gigantic claws. Its whole structure seems adapted to digging the earth in search of t roots which probably constituted great par Another extinct animal of the same descript by little else than its claws, and fragments teeth. From the form of the claw, the s it has been named) was at first supposed nivorous animal; but Cuvier satisfactorily belong to the Edentata. It seems nearly megatherium. Remains of tesselated bony also been found, which indicate the former a large animal allied to the Armadillos, name *glyptodon* has been given; and othe gigantic ant-eaters have lately been disco same locality.

The Edentata terminate the series of the or *clawed* true Mammalia; and, as has be there are some among them with the cla and so enveloping the ends of the toes, duced to so small a number, as to appro nature of hoofs. Nevertheless, they h faculty of bending their toes round variou of grasping with greater or less force. absence of this faculty characterises the *h* They use their feet only as supports, and has not the power of rotation, its two bo quently consolidated into one, or one of

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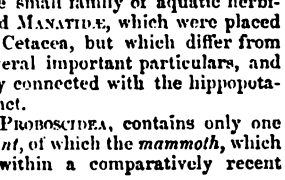
ZOOLOGY—(CONTINUED).

Order IX.—Pachydermata.

chydermata, consisting of hoofed ani- not ruminate, may be divided into three f which shows a tendency towards some The first of these, PROBOSCIDEA, contain- *lephant* and its extinct congeners, ap- veral particulars to the Rodentia. In ro large front teeth developed at the ex- st, and the grinders are formed of paral- amel and bony matter. There are also resemblance in the form of the bones, icularly in those of the extremities. For as not a complete hoof, but five toes to ch are very distinct in the skeleton; but l in a callous skin, which surrounds them ternal indication of their separate condi- nails at their extremities. The second RUE PACHYDERMATA, contains those which ee, or two toes to their feet. Those in make even numbers, as the SUIDÆ, or feet somewhat cleft, and approximate ntia in various parts of the skeleton, and plication of the stomach. Of the others, cloven feet, some approach the Probos- ich they are connected by forms now ex- hich the bony remains are sufficient to r character. The third group of Pachy- OLIDUNGULA, consists of quadrupeds with ent toe, and a single hoof to each foot, These also, in their general form and , approach the Ruminantia, with which cularly connected by the camel and an tinct. Another group should also pro- iated with this order, holding the same the Amphibia or Seal tribe among the his is the small family of aquatic herbi- , termed MANATIDÆ, which were placed ng the Cetacea, but which differ from s in several important particulars, and e closely connected with the hippopota- ow extinct.

group, PROBOSCIDEA, contains only one e *elephant*, of which the *mammoth*, which extinct within a comparatively recent ied spe- extinct group is which, ation of ears to ity with us. All agreed pair of



Elephant.

s or front teeth, and a very elongated oscis; and it is probable that this last organ was formed, as in the elephant, to answer the purposes of a hand, laying hold of large objects by coiling itself round them, and of small by means of the finger-like organ at its extremity. The magnitude of the sockets necessary to hold the tusks, renders the upper jaw so high, that the nostrils, which are prolonged through the trunk, are placed in the skeleton near the top of the face. By means of its trunk, the elephant not only lays hold of its food, but sucks up its drink, which it makes to fill its capacious nostrils, and then discharges, by bending its trunk, into its mouth. By this admirable organ, the shortness of the neck, rendered necessary by the weight of the head, is fully compensated. The cavity for the brain by no means corresponds with the external form of the skull; for, in order, as it would seem, to give a larger surface for the attachment of the muscles of the trunk, the outer layer of bone is widely separated from the inner, and between the two are a number of large bony cells.

In none of the Proboscidea has the lower jaw of the adult any front teeth. The arrangement of the grinders differs in the various species; but in all they are composed of alternating plates of hard *enamel* and softer *bony* matter, cemented together by a third substance, which is termed the *cortical*. These grinders are in constant progress of renewal; but they succeed each other, not by rising from below upwards, as in man, but by being pushed forwards from behind, in proportion as the tooth before each is worn away. There is never more than one *perfect* molar on each side; but in proportion to the age of the animal there may be two, three, four, or more, the front ones being the worn-down remains of those at first formed. It is stated that the molars are thus renewed eight times. The tusks, however, are only changed once; but, like the cutting teeth of the Rodents, they are constantly being renewed at the roots. Two species of elephants exist at the present day, both of which inhabit tropical climates, one in Asia the other in Africa. Remains of the mammoth are chiefly found in the north of America and of Siberia; and, from a nearly perfect specimen, which was discovered frozen in the ice near the mouth of the River Lena, it appears that this species was adapted to live in cold climates—the skin being densely covered with hair of two kinds. The habits of the elephant are sufficiently well known to render it unnecessary here to dwell on them. Its food is entirely vegetable; and, in its undomesticated state, it consists chiefly of the leaves and young branches of trees, and of the long herbage of the ground, both of which it gathers with its trunk. The tusks serve not only as weapons of offence and defence, but to root up small trees and tear down cross branches, either to obtain their leaves, or to make a passage for the bulky body of the animal through the tangled forest.

2. Of the true Pachydermata the first family is that of SUIDÆ, the *Pig* kind. It is characterised by the

peculiar thickness of the skin, and by the presence of four toes on each foot. They have three sorts of teeth in each jaw; the canines are usually long, and project forwards as tusks; the anterior molars are more or less narrow and conical, whilst the posterior are tuberculated. The food is principally vegetable, but admits of considerable variation. The domesticated pig is well known to be quite an omnivorous animal. In the true pigs, the foot has two toes furnished with large hoofs, and two much shorter ones that scarcely touch the ground. The *wild-boar*, which abounds in some parts of the continent of Europe, is well known to be a very ferocious animal; and the domesticated race which is derived from it often exhibits indications of the same character. One of the most curious animals of this tribe is the *babyroussa*, a native of the Indian archipelago; the upper canines of which are very long, and grow spirally upwards and backwards. These serve as defensive weapons of a very powerful description, inflicting severe lacerations by an upward stroke of the head.

With the family of Suidæ is probably to be placed the *hippopotamus*, or river-horse, which seems in many respects intermediate between the pig and the elephant; whilst its aquatic habits, and the conformation by which it is adapted to these, approximate it to the Dugongs. Only one species is known, which is now confined to the rivers of middle and south Africa. But for its short, thick, and very blunt muzzle, it might be compared to a gigantic pig; the body is extremely massive, and the legs so short that the belly almost touches the ground; and it is destitute of any covering but a few weak and scattered bristles. The canine teeth are long; the upper ones straight, and the lower curved backwards, so that they rub against each other. Although ferocious, or rather courageous, when attacked, these unwieldy inhabitants of the waters are in their nature shy, and feed entirely on roots and other vegetables, seeming to prefer those which are partially decomposed by the action of the water.

3. The second family of true Pachydermata, to which the name of TAPIRIDÆ, or the *Tapir* tribe, may be given, resembles the first in the thickness of its skin, but differs in the arrangement of the toes, of which there are only three on each hind foot, and sometimes also in front, without any central cleft. There is considerable variation in regard to the teeth; but the whole family is exclusively herbivorous. No members of it exist in Europe at the present time; but fossil remains of very large species are abundant in some localities. The *tapir* of America is about the size of a small ass, with a brown and almost naked skin, a short tail, and fleshy neck that forms a crest at the nape. It is common in humid places and along the rivers, and its flesh is eaten. The nose assumes the form of a short fleshy trunk—the rudiment, as it were, of that of the elephant. Other species have been recently discovered of a larger size; one of which has the bones of the nose still more elongated, approaching a very remarkable fossil genus, the *palæotherium*.

Form of Palæotherium.

This seems to have been an animal nearly allied to the Tapirs; remains of several species, varying in size from a rhinoceros to a small sheep, have been found in the gypsum quarries of Paris, the fresh-water deposits of the Isle of Wight, and other places.

To this family belongs the *rhinoceros*, which is remarkable for its large size, and for the kind of horn, composed of a solid fibrous substance, resembling agglutinated hairs, which is supported on an arch formed by the nasal bones. Several species exist in different parts of the tropical portion of the Old World. They are naturally stupid and ferocious, frequenting marshy places, and subsisting on herbage and the bra trees. In some species a second horn exists b first. The upper lip is generally elongated, some power of prehension. Rhinoceros' b been disinterred in many parts of Europe.

4. The third group of Pachydermata, the GULA, contains only one family, that of the H *Horse* tribe. Though there is only one app and single hoof to each foot, there are appea neath the skin which represent two lateral t well-known animals of this tribe, the *horse*, *quagga*, *onagga*, and *dzegguetai*, are commonly as belonging to but one genus; but the first probably to be separated from the rest, from cumstance of its tail being wholly clothed hair, whilst that of the rest has long hair onl the tip. On this point, however, there is muc tainty, arising from our ignorance as to the stock of the horse. In all the instances in at present know horses to exist in a wild state, appears to have been originally derived from ticated stock. This is certainly the case wit to the wild horses which now spread over the South America, all of which are descended fr first introduced there by the Spaniards.

All the animals just named agree in their There are six incisors to each jaw, which youth, have their crowns furrowed by a gro six molars on each side, above and below, wi crowns, marked, by plates of enamel which them, with four crescents. The males have, in two small canines in their upper jaw, and s in both; these are always wanting in the fem tween the canines and the first molar there space, which corresponds with the angle of where the *bit* is placed, by which alone man enabled to subdue these powerful quadrupeds of the species of this family are indigenous rica.

5. The animals associated in the family A may be considered as Pachydermata still more than the hippopotamus to an aquatic reside their teeth and general organisation they bea correspondence to this order; and the fish-l which they exhibit is scarcely a greater varia is seen in the order Carnivora. The posteri nities of these animals are entirely wanting, true Cetacea. The type of this family is the which grows to the length of fifteen feet, and f the mouths of the African and American rive called sea-cow, and its flesh is eaten.

Order X.—Ruminantia.

The order Ruminantia is perhaps the most and best determined of the whole class, fo species which compose it seem constructed, as upon the same model, the camels alone presen considerable exceptions to the general charact group. The first of these characters is the a sence of incisor teeth from the upper jaw; w lower appears to possess eight; of these, how two outer ones are really canines which have t form of incisors, so that the number of the tru is six, as in the other viviparous Mammalia. lars are almost always six in number, both a below, and have their crowns marked with tw crescentic ridges of enamel, which aid in th the food. The feet are each terminated by and two hoofs, which present a flat surface other, appearing as though a single hoof had b hence the names that have been applied to t nals, of cloven-footed, &c. Behind the hoof always two small spurs, which are the vestiges toes.

The name of the order intimates the singula possessed by these animals, of masticating the second time, or "chewing the cud." This fa pends on the structure of their stomachs, w four in number. The food which is croppe

y die, and fall from the skull; and the animal
defenceless. Others, however, are reproduced,
y larger than before, which are destined to
the same fate. These horns, periodically re-
are usually styled *antlers*.

Ruminants with horny sheaths to the bony pro-
s, may be divided into three families. Ante-
or *Antelope* tribe, characterised by the light-
their forms and the activity of their movements,
the solidity of the bony cure. Capridæ, or *Goat*
n these the bony core is partly occupied with
nd the general form approaches that of the Ox
ut the horns are directed upwards and back-
Bovidæ, or *Ox* tribe: these have the locus
l upwards and forwards; the form is robust, and
resents heavy. The division of the Ruminants
h the horns are periodically cast off, constitutes
e family, that of Cervidæ, the *Stag* tribe. An-
mily, including only the giraffes, and named
ramidæ, is characterised by the shortness and
ture of the horns, which are covered with a
Of the Ruminants without horns there are two
families—the Moschidæ, or *Musk Deer*, which
markable for their elegance and lightness, and
ut little from the rest of the order save in the
of horns; and the Camelidæ, or *Camel* tribe,
in their dentition and in the structure of the
ities, exhibit a transition to the Pachydermata.

e family Antelopidæ, remarkable for the elan-
of form and swiftness of foot of the animals
ing it, contains above seventy well-ascertained
bearing a strong general resemblance to each
Most of these are natives of Africa; a few
however, inhabit Asia; a still smaller number
America; and one only, the *chamois*, now re-
n Europe. Among these numerous species we
ith forms that remind us of the other families
Ruminantia—the ox, goat, stag, &c. They gene-
sociate in large herds, which migrate together
ch of pastures. A species well known to the
s of South Africa is the *spring-bok*, which oc-
lly visits their cultivated lands, during seasons
ght, in innumerable herds, causing devastation
er they pass. The antelopes may probably be
d as the types of the Ruminantia, exhibiting
ular characters of the order in the most remark-
gree. They are extremely vigilant and timid;
speed of the swiftest species surpasses that of
other mammiferous animal. Those which are
d to live on rocks and mountains exhibit the
markable agility, and fearlessness of those dan-

Spring-bok Antelope.

hich their habits would seem to involve; they
with perfect composure along the giddy brinks
most awful precipices, climb and descend with
rful care and precision, and leap up or down to
allest surface that will contain their collected
ith perfect firmness; and yet they are so fearful
supposed enemy, that it is difficult to get within
t of them.

he family of Capridæ is connected with the last
ny antelopes which, like the chamois, approach
ats in form. It includes only the goats and sheep,
riginal stock of the domestic breeds of the former

appears to be indigenous to Persia, where it inhabits the mountains in large troops. The goats of Angora, Thibet, &c., celebrated for the fine quality of their hair, are no more than varieties of the common species. The *ibex*, which inhabits the mountains of the old world, and especially the Caucasian chain, is distinguished by the size and strength of its horns. It is said that this animal fearlessly precipitates itself down precipices, always falling on its horns, the elasticity of which secures it from injury. The *sheep* appear to have extremely little real difference from the goats: a large number of races exist, the relation of which to each other is uncertain; and there is doubt as to the original stock of the whole. Of the domestication of this animal we have an earlier record than of any other.

3. The species of the family Bovidæ, or *Ox* tribe, are comparatively few. They are all large animals, with a broad muzzle, heavy and massive body, and stout limbs. Of the original stock of the domestic ox, we have no certainty, since, as in the case of horses, the existing races of wild-cattle are probably all descended from those which have been at some period subservient to man. Of all the animals which have been reduced to his service, the ox is, without exception, that to which he is most indebted, for the extent and variety of its means of usefulness. The universal utility of the animal appears to have been very soon detected; and we find, consequently, that its domestication soon followed that of sheep, and that it is mentioned in the most ancient records as a servant of man, long before either the horse or dog are noticed.

Amongst the undomesticated species of this family, which have all a strong general resemblance to each other, and are the most powerful and savage animals of the whole order, may be noticed the European *bison*, which was formerly spread over Europe, but is now restricted to Lithuania and the Caucasian region; the American bison, commonly called *buffalo*, which inhabits all the temperate parts of North America; the *Indian buffalo*, of which there are several different races (in one, the horns include a space of ten feet from tip to tip), of which some have been domesticated; the *Cape*

Cape Buffalo.

buffalo, an extremely ferocious animal, with large horns, first directed downwards so as nearly to cover the forehead, inhabiting the woods of Caffraria; and the *musk-ox*, a species inhabiting the coldest regions of North America, with short legs, and long hair reaching the ground, which diffuses more strongly than the rest the musky odour common to the whole genus, and which is particularly noticeable in the European bison.

4. *The family* Cervidæ, or *Stag* tribe, includes, like *that of antelopes*, a large number of species differing *but little amongst* each other, very widely diffused over *the earth's surface*, and easily separated from others *by the character of* the horns. With the exception of the reindeer, however, the female is destitute save in a few rare individual cases, analogous in which the hen assumes the plumage of the The substance of the horns, when completely is that of a dense bone, without pores or inter their figure varies greatly according to the sp even in the same individual at different age animals are extremely fleet, and live mostly where they feed on grass, the leaves and trees, &c.

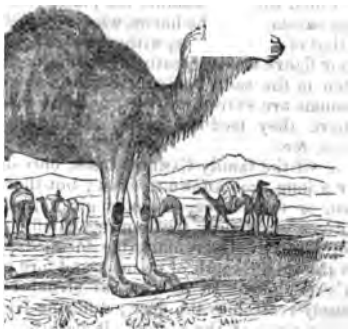
5. Of the family Camelopardæ, only one sp for a long time known to exist; but there are two, or even three, kinds of giraffe, all of natives of Africa, frequenting chiefly the b the deserts. Its remarkable form, dependin on the great length of its neck and fore legs, i to every one. In its general structure, ho closely resembles the deer; differing from th permanence of the horns. It has also some affinity to the camels; especially in the long neck, the existence of callosities, or hard sur the breast and knees, and the absence of t spurious hoofs. It is the tallest of all animals; being frequently raised eighteen feet from the Its disposition is gentle, and it feeds on leaves ing upon the young branches at a height mos that which any other animal can reach, and them towards its mouth by its prehensile tong lives in small troops of five or six individuals very timid, although capable of powerfully de itself by kicking. Notwithstanding the lengt neck, the number of vertebræ which this part a is no greater than in other Mammalia.

6. The Moschidæ, or *Musk-deer*, are compos termediate between the true *Deer* and the Cam which last connects the Ruminantia with the dermata. They resemble the ordinary Rumin the lightness and elegance of their forms, and nimbleness of their movements; and differ ch the absence of horns, and in the projection of the tooth on each side of the upper jaw, as in the The name of this group has been derived fr common Musk, the males of which secrete the ferous substance so called. This species is almo out tail; and the hairs which completely cover so coarse and brittle that they might almost be spines. It is confined to the mountainous reg tween Siberia, China, and Thibet, from which the Asiatic rivers descend. Its habits are no and solitary, and its timidity extreme. The musk-deer inhabit the warmer parts of Asia eastern archipelago; they have no musk-pouch are the smallest and most elegant of the Rum and are active and gentle in their habits.

7. The Camelidæ, or *Camel* tribe, approxima preceding order, and especially to the whole-ho sion of it constituting the Horse tribe, more tha other Ruminants—to such a degree indeed, th naturalists prefer associating them with tha They have always canines in both jaws, and t incisors have also the same pointed shape. mals of this family are much less elegant in f graceful in action than the other Ruminants; organisation is, equally with theirs, most adapted to the circumstances in which they ex family contains two groups, the *Camels* and *Lla* former are restricted to the Old World, and correspond to them in the New.

In the true *Camels* the two toes are united a kind of horny sole, almost to their points, w minate in small hoofs; and there is a soft cu neath the foot, by which it bears upon the su face over which it is formed to move. Two sp known, one called the *Bactrian* or *two-humpe* and the other the *Arabian*, or *one-humped*. completely domesticated. The first is employe in Central Asia, the latter in Arabia, North Syria, Persia, &c. The two-humped camel is and stronger, being capable of sustaining

ds' weight, and is best adapted for rugged
ther is the most abstemious, and the best



Dromedary.

andy desert. The *dromedary* is merely
ety of it, possessed of greater fleetness
endurance. The flesh and milk of the
food, and the hair for the manufacture
e people who possess it. Their humps,
nposed of fat, are provisions of super-
iment, which are gradually absorbed and
he occasion of a scarcity of other food, as
the end of a long journey. By resting
ities, they are enabled to repose on a
ace, and their stomachs are adapted to
ly of water sufficient for several days.
of South America are much smaller than
; they have the two toes quite separate,
it humps. They were the only beasts of
ed by the Peruvians at the time of the
y can only make short journeys, and the
our species known cannot sustain more
red and fifty pounds. Remains of a fos-
e been lately found, which must have
uncl in stature.

Order XI.—Marsupialia.

naining orders of Mammalia, the Mar-
onotremata, are now usually regarded as
distinct sub-class, termed *Ovo-vivipara*,
etween the truly viviparous Mammalia
ous Birds and Reptiles. Their most ob-
ty is the production of their young at a
od of development, in a state incapable of
rely exhibiting the rudiments of limbs;
t until a long time after their birth that
condition parallel to that of a new-born
of the higher orders, and they much
the half-formed chick in an egg which
few days incubated. In accordance with
le of this important function, we find a
rity of the whole organisation to that of
parous Mammalia, and approaches, in
structure, to birds and reptiles. The
ervous system, the arrangement of the
sels, and the larger number of the incisor
the higher sub-class never exceed six),
ations of this approximation; and this
d in the deficiency of intelligence, which
their physiognomy as well as in their

) orders, that of Marsupialia is the one
the least departure from the general
mmalia, and it is that, too, in which the
he continued nourishment of the young
s the most remarkable. The new-born
ring attaches itself to the teats of the
nains fixed there until it has acquired a
lopment comparable to that with which
are born. The skin of the abdomen of
) disposed as to form a pouch, in which
t young are protected, and into which,
long after they can walk, they retire for shelter on the apprehension of danger. It is from the pouch (*marsupium*) that the order takes its name, this being its distinguishing peculiarity. It is remarkable that, notwithstanding the general and usually very striking resemblance of the species to each other, they differ so much in the teeth, the digestive organs, and the feet, that, if we rigidly adhere to these characters, we should find it necessary to separate them into distinct orders.

The geographic range of this order is extremely peculiar. With the exception of the Opossum group, which inhabits America, its species are at present almost confined to Australia and the neighbouring countries, where they constitute, with the Monotremata, almost the only mammiferous animals.

The Marsupialia may be divided into families according to the nature of their food. Some of those inhabiting Australia are altogether carnivorous, and display considerable ferocity. The *Opossums* have a mixed diet; they are remarkable for possessing an opposable thumb, like that of Quadrumana. Another group is more formed to live in trees, where they feed upon insects and fruit; to this belongs the *petaurus*, or flying-opossum, which is formed upon the same plan with the flying-lemur. The *Kangaroos*, of which several species exist, resemble

Great Kangaroo.

the Ruminantia in food and habits. They are remarkable for the enormous length of their hinder feet, whence their generic name, *Macropus* (long-footed), is derived. The hind legs and tail are also very largely developed; whilst the fore legs and feet are very small. From this great inequality in the size of the limbs, they advance on all-fours very slowly; but they can make immense leaps with the hind legs, the tail probably assisting them. These are furnished with one large nail, almost like a hoof, which is a powerful weapon of offence and defence; for, supporting itself upon one leg and its tail, the animal can inflict a very severe blow with the leg which is at liberty. It will sometimes grasp its enemy with its fore paws, whilst it kicks it with its hind foot; but this it will only do when attacked, for it is naturally a very gentle animal. The largest species is sometimes six feet in height, having the bulk of a sheep, and weighing 140 lbs. Its flesh is used as food by the New Hollanders, and is described as being a little like venison.

Order XII.—Monotremata.

The order Monotremata is a very extraordinary one. It contains but two species, the *echidna* or spiny ant-eater, and the *ornithorhyncus* or duck-billed platypus; and these are found nowhere else than in New Holland and Van Diemen's Land. These were included by Cuvier (who regarded the absence of teeth as the chief character) amongst his Edentata; but zoologists have now generally agreed that the peculiarities of their structure and physiology fully entitle them to rank as a distinct order, even more dissimilar to the other Mammalia than are the marsupial quadrupeds just considered.

this is a point of very remarkable affinity with that class, which is borne out by their general organisation. There is a sort of clavicle (collar-bone) common to both shoulders, placed before the ordinary clavicle, and analogous to the *furcula* (merry-thought) of birds. Each foot possesses five claws; and, besides these, the males have a peculiar spur on the hinder ones, like that of a cock.

The *Echidna* is characterised by the slenderness of the prolonged muzzle or bill, which contains an extensible tongue, like that of the ant-eater. The feet are short, very robust, and adapted for digging. The whole upper part of the body is covered with spines, bearing some resemblance to those of the hedgehog; and, when apprehensive of danger, and unable to escape from it by burrowing, the echidna can erect its spines, and roll itself into a ball.

The habits of the *Echidna* in a state of nature are but little known; for they do not exist in any large number; and they burrow so rapidly in the ground, that, even when one is discovered, it is not easily got hold of. To lift it from the ground, requires more force than would be supposed; for it firmly fixes itself to the earth in an instant, and but a few moments elapse before it is so far down, that its back is level with the surface. It feeds upon insects, principally ants, which it captures by its long extensile tongue; and this appears to be furnished with a glutinous secretion which causes them to adhere to it.

The *ornithorhyncus* (so named from its *bird*-like *bill*), is an animal of such extraordinary aspect, that the specimen first brought to this country, at the end of the last century, was supposed to have been *made up*, by the attachment of the beak and feet of a bird to the body of an otter-like quadruped. It was not until other specimens had arrived, and had been submitted to most careful examination, that naturalists were satisfied of the real existence of such an animal. Since that period, its true place in the scale, depending upon the mode in which it produces and nourishes its young, has been a most fertile source of controversy; but the question may now be regarded as set at rest by the

command of materials and of power of co
would almost certainly fail of solving—so ma
conditions necessary to be fulfilled, the slight
in any one of which would have marred the r
is only after attentively studying the structur
animals, as presented to our view by an all-w
tor, that we become aware of the complex
these conditions, and of the variety of adaptati
sary to fulfil them.

In regard to the place of the class in the ve
series, this is easily determined to be between
tiles and Mammalia. Like the former, its me
oviparous, and like the latter, they possess a
double circulation and warm blood. In orde
the vertebrated animal to its aërial residence,
ously necessary that the body should be of as l
gravity as possible, that is, should be as near
be of the same weight with an equal bulk o
is further necessary that the surface should b
of being greatly extended, and this by som
appendage that should be extremely light, a
same time possessed of considerable resistar
great degree of muscular power required fo
and propulsion in the air involves the nece
very high amount of respiration, for which a
provision also exists in insects; and as the gr
vity of the vital processes depends greatly upo
temperature which this energetic respiration
a provision is required for keeping in this
not allowing it to be carried away by the at
through which the bird is rapidly flying.

The first and third of these objects—the lig
the body and the extension of the respiratory
are beautifully fulfilled in a mode which will
to correspond with the plan adopted for the
pose in insects. The air which enters the b
restricted to a single pair of air-sacs, or lun
near the throat, but is transmitted from the
to a series of large air-cells disposed in the
and in various other parts of the body. Even
rior of the bones is made subservient to the
pose, being hollow and lined with a delicate m

is by very powerful muscles; and there is another
s which pass from the lower part of the spine to
toes, turning over the knee and heel, in such a
ner that the flexion of these joints shall shorten
s: by this contrivance, the simple weight of the
flexes the toes, and birds are thus enabled to sleep
hed on one foot. Most commonly the feet possess
toes, of which one is directed behind and three in
t. This posterior toe opposed to the rest is not,
ever, analogous to the thumb of Quadrumana, which
ly represented in birds by the spurs of the Fowl
c. In some birds two of the toes are disposed behind,
two in front; in others the posterior toe is deficient;
thers, again, it is brought forwards. The number
ints in the posterior toe is but two; in the external
five.

he upper part of the skeleton of the trunk is pecu-
y adapted to give power to the wings. The *sternum*
breastbone is made to project forwards with an
ated ridge or keel, to which the strong muscles
h depress the wings are attached; and from the
th of this, the powers of flight may be in some de-
judged of: in the ostrich tribe, where the wings
not sufficiently developed to raise the bird off the
nd, it is quite flat. The shoulder-bones are con-
ted with the sternum and with each other in a much
nger manner than in other vertebrata. The two
vicles, or collar-bones, are united together on the
tral line, forming the *furcula*, or merry-thought;
the use of this is to keep the shoulders apart, not-
standing the opposing forces exerted by the action

Sternal apparatus of the Common Harrier:
a, furcula; *b*, keel of sternum.

lying. It is generally firm, and its angle open, in
portion to the power of flight. Besides this, we find
sternum connected with the shoulder by two bones
med *coracoid*, which in man and the other Mammalia
scarcely developed, being merely short processes from
shoulder-blade, which do not reach the sternum.
n order to give as great firmness as possible to the
tres of motion of the wings, the trunk of birds has
little flexibility; the vertebræ being firmly jointed
one another, and the ribs united to the sternum by
y prolongations of the latter, instead of by cartilages.
t this want of flexibility of the trunk is counter-
anced by the length and flexibility of the neck. The
nber of cervical vertebræ (which in the longest-
ked Mammalia is never more than seven) is very
siderable, varying from twelve to twenty-three,
highest number being present in the Swan tribe.
se are so jointed together that the head can be
ned completely round (the position assumed when
rest) or moved in any direction. The jaws or man-
les of birds are not furnished with teeth; but are
ered, like those of the Chelonia, with a horny enve-
e, which sometimes projects considerably beyond
m, and forms the *bill*. This is occasionally furnished
h little projections, which in some degree supply the
ce of teeth; but it is only in the birds of prey that
ese are supported by any corresponding projections
the bone beneath.

or on soft herbage, its muscles are reduced to extreme tenuity, so that it is scarcely distinguishable from the proventriculus. The dilatation of the craw is sometimes wanting. In parrots and pigeons it is an important organ in the nutrition of the young. It is furnished with numerous glands, which become developed in both sexes during the period that they alternately perform the duty of incubation; the function of these is to secrete a milky substance, with which a part of the food swallowed by the parent is impregnated, and this is then disgorged for the supply of the young.

The development of the senses of birds varies in different tribes according to the mode in which they are adapted to obtain their prey. The sight is almost always extremely acute, and is the chief means of seeking food. The powers of vision in the rapacious birds are probably the greatest. A hawk has been known to distinguish a lark, coloured like the clod of earth upon which it is sitting, at twenty times the distance at which it would be perceived either by a dog or man. The rapacious birds seem more remarkable, however, for their *length* of sight; those which, like the swallow, capture insect prey on the wing, must have a *quickness* of sight of which we can scarcely form a conception, since, while flying at the rate of three miles in a minute, they are constantly on the watch for their victims. The sense of smell does not seem to be in general highly developed in birds; even the vultures would seem to become cognisant of their food at least as much by sight as by scent. The sense of hearing seems to be in general tolerably acute, especially in the nocturnal birds of prey, some of which possess—what the rest want—an external cartilaginous ear. The tongue of birds does not appear to serve as an organ of taste, except in a few species. It is employed in various ways as a means of obtaining food. The sense of touch appears to be generally very obtuse; but in such as the duck, which search for their food in mud, where neither sight nor smell can be of much avail, the bill is covered with a skin abundantly supplied with nerves of sensation, in order that the animal may feel about for its hidden sustenance.

Of all the endowments of this [illegible]

direction of these, the place for their nests be selected; their materials collected; the selves built, and the young reared in them tions are performed; and many curious are employed to obtain food. These it is to indicate in general terms; since it is that the habits of birds have something each species, yet that in all the individu species they are as precisely alike as the stances will admit. Nevertheless, there in birds a degree and kind of adaptation conditions, which insects do not possess, display an amount of *intelligence* superior found in that class. And in the domesticabl tribes of birds, we see an obvious appro that higher form of attachment to man, wh bited by many species among Mammalia.

There is a more striking conformity in class of birds to one general type, than is pr in any other group of equal extent in the wh kingdom. The instances of any remarkable from it are very few; the chief is that exhib Ostrich tribe, in which the development of t very small. In no other instance are eit extremities wanting; and thus birds never irregularity occasionally presented by fish and even Mammalia.

Owing to this general conformity of type, vision of the class is a matter of some diffi it is not easy to say what characters should b as of most importance, and what are but And this difficulty extends also to the smal sions; in separating which, characters that trivial are often necessarily employed from others. The following orders may probably as constituting groups of species having a semblance to each other, and a well-marked larity from the rest.

The NATATORES, or Swimming-Birds, hav the union of the toes w[illegible] a web, so that the which the foot a[illegible] the water is greatl The legs are [illegible] placed behind, t[illegible]

ction common to many of them, and particularly rvable in our ordinary poultry. The character of order is chiefly derived from the structure of the which are furnished with three toes, united at their by a short membrane, and with one behind, higher the rest; and these are armed with short, blunt, robust nails, for the purpose of scratching up their

the first of these orders, the habitation is, more ess exclusively, aquatic; in the second, marshy es are chiefly frequented; and the third and fourth ain birds essentially adapted to live on the ground, to seek their food without rising into the air. In remaining orders, the habitation is more or less al.

he Scansores, or Climbers, pass most of their time rees, clinging to the branches by means of their which are specially adapted to that purpose. The rnal toe is turned backwards, as well as that which posterior in the Rasores, so that they have two in front and two behind. This conformation pre- s them from walking readily on the ground; and, r powers of flight not being usually great, they are so active as the Insessores.

he Raptores, or Birds of Prey, constitute a group ciently well marked by the robustness and muscu- y of the whole body, the strength of the legs, and ie bill and talons. The former is strong, curved, p-edged, and sharp-pointed; and all of the toes— e before and one behind—are armed with long, ag, and crooked claws.

here now remains a very extensive group of birds, enting no very marked differences amongst its ibers, and not readily defined by any striking cha- ers which separate it from the rest. Accordingly, usually made to constitute but one order, that of ssores, or Perching-Birds. The principal character hich all these agree, is the slenderness and short- of the legs; the feet have three toes in front and behind, and the two outer ones are united by a short membrane; they are all slender, flexible, moderately long, with long and slightly curved claws. se feet are readily distinguishable from those of the er orders: they are destitute of the webbed expan- possessed by the Natatores; they have not the at strength and destructive talons which charac- e the Birds of Prey; nor do they present the very nded toes which enable the Waders to walk safely r marshy soils, and tread lightly on the floating es of aquatic plants. They are adapted to enable bird to *rest* on the branches of trees, but not to to them; and, accordingly, the birds of this order a large proportion of their time on the wing.

f all these orders, the Cursores present the nearest oach to the Mammalia in their conformation and e of life; but it is among the Insessores that we most developed those characters which have been tioned as distinguishing the class—power of flight, ty of plumage, and melody of voice. These, there- as the types of the class, will be first considered.

Order I.—Insessores.

his order, composed of the Perching-Birds, is the t numerous and varied of the whole class. Its acter seems principally negative; for it embraces e birds which are neither swimmers, waders, bers, rapacious, or gallinaceous. Nevertheless, by paring the different tribes it includes, a great gene- resemblance of structure becomes apparent; and insensible gradations are perceived between those at first appeared most unlike, that it is difficult to blish the subdivisions of the group. The foot, as name denotes, is especially formed for grasping or hing—a peculiarity evinced by the situation of the er toe, which is invariably placed on the same level lane as those in front. The length of the tarsus or k (that which appears the lowest division of the but is really the higher part of the foot) is moderate, often very short in comparison to what is seen in other orders; and, as these birds never seize their prey by their claws, these weapons are never retractile. The perchers are thus distinguished from the birds of prey properly so called; from the climbers they are separated by having three toes directed forwards; whilst the situation of the hind toe enables them to be readily known as neither gallinaceous, wading, nor swimming birds. Their food is various, but in general mixed, consisting of insects, fruit, and grain; those in which the beak is stout and strong feed more upon grain, some of them, however, even pursuing other birds; and those which have a very slender bill feed on insects, or on the juices of flowers. The proportional length of the wings and their powers of flight, are as various as their habits. In general the females are smaller and less brilliant in their plumage than the male; they always live in pairs, build in trees, and display the greatest art in the construction of their nests. The young come forth from the egg in a blind and naked state, and are wholly dependent for subsistence, during a certain period, upon parental care.

The *larynx*, or organ of voice, is always of complex structure in the members of this order, which contains all that are commonly known as singing-birds. There are few that do not either sing, or utter some peculiar note or chatter analogous to song, during the season of courtship; and even of those which in general utter only monotonous cries, or of which the notes are harsh, some are frequently capable of being taught to speak, to whistle airs, or to imitate other sounds.

The families composing this order may be distributed under four large groups or assemblages, characterised by the respective forms of their bills. The Conirostres have a stout beak, more or less conical, and with regular edges. The Dentirostres have the upper mandible notched, as in the Raptores, towards the point; but this notch only exists in the horny covering, and not in the bone. The Fissirostres have a short, broad, horizontally-depressed beak, so formed that the gape of the mouth is extremely wide; it is slightly hooked, but without any tooth at the edge. The Tenuirostres have the bill very slender and elongated; it is sometimes straight, and sometimes curved.

I. Conirostres.—The Conirostres are to be regarded as containing the types of the order, the species belonging to it having the most varied faculties. They feed indiscriminately upon insects and vegetables, and are therefore termed omnivorous. Their feet are so constructed that they can walk upon the ground with nearly the same facility as they perch upon branches. The families included in this tribe are the Corvidæ, or Crows; Sturnidæ, or Starlings; Fringillidæ, Finches; Buceridæ, Hornbills; and Loxiadæ, Crossbills.

Of the family Corvidæ, the common *Crows* are the most characteristic examples, and may be regarded as combining the general characters of the class in a greater degree than any other birds. In every climate habitable by man these birds are found; they are constructed for powerful and continued flight, as well as for walking firmly upon the earth; they feed indiscriminately on animals or vegetables, and, when pressed by hunger, do not refuse carrion: their smell is remarkably acute. They are bold but wary, live in common societies, and possess great courage; when domesticated, they possess a power of imitating the human voice nearly equal to that of the parrot; and, like it, show signs of greater intelligence than is found in the rest of the class. Under the general term *Crow* are included the raven, which is the largest of European perching-birds, and which is bold enough occasionally to carry off poultry; the corby crow, which is very destructive to eggs and young game; the rook, which chiefly feeds on insects, and especially devours the grubs of the Coleoptera, though it occasionally eats grain if its proper food be scarce; the hooded crow, which feeds upon molluscs, &c., on the sea-shore; and the jackdaw, which is a very vigilant enemy of predatory birds. The *magpies* are nearly allied to the crows; as are also the *jays*, which live principally, however, in woods, and feed on

acorns, &c. The STURNIDÆ are best known by the European *starling;* the family seems like a smaller race of crows, which they greatly resemble in manners and structure, but are much weaker.

The FRINGILLIDÆ, or *Finches*, are the smallest of this group of perching-birds, and are readily known by the shortness and strength of their conical bills. They subsist generally on grain. The number of species is very great; and some among them are every where diffused. The sparrows, chaffinches, linnets, goldfinches, bullfinches, and larks, are the kinds best known in this country.

The BUCERIDÆ, or *Hornbills*, are readily distinguished at first sight by the enormous size of their bills, which are swollen or enlarged at the base into protuberances resembling horns or knobs, which are sometimes as large as the beak itself. The form of this excrescence varies much with age; and in very young individuals there is no trace of it perceptible. It is not solid, except in one species, but composed of a fragile network of bony fibres. The use of this curious appendage is unknown. The Hornbills are gregarious noisy birds, of large size, and are peculiar to the Old World. They subsist on all sorts of food, devouring tender fruits, chasing mice, small birds, and reptiles, without disdaining carrion; and they breed in the hollows of lofty trees.

The family of LOXIADÆ, or *Crossbill* tribe, contains a large number of genera, of which the common crossbill can scarcely be regarded as a characteristic illustration, the peculiarity from which it takes its name not being possessed by more than a few other species. This peculiarity consists in the strong curvature of the mandibles, so that their tips pass each other, and not always on the same side; by this extraordinary bill the bird is enabled to extract the seeds from pine-cones with astonishing facility, and it is confined to localities in which these are to be obtained. The species common in Western Europe has of late years become more abundant than formerly in the British Isles, where it was previously chiefly known as an occasional straggler.

Bill of Crossbill: *a* and *b*, muscles which move it.

II. DENTIROSTRES.—This group is the most allied of all the Insessores to the Birds of Prey. As its name imports, the species it includes are distinguished by a distinctly notched bill, and they are the greatest destroyers of insects among the Perchers. With very few exceptions, they either live entirely on insects, or resort to fruit only when insufficiently supplied with their favourite nourishment. The mouth is protected on each side by bristles, which defend the soft parts during the struggles of the prey; and the feet are generally adapted more for perching than for walking. The form of the beak varies in different species; in the shrikes, for example, it is stout and compressed, whilst it is flattened or depressed in the fly-catchers, which lead towards the Swallow tribe. This group includes the following families:—LANIADÆ, or Shrikes, which most prominently manifest the peculiarities of the group. MERULIDÆ, or Thrushes, in which there is less restriction to peculiar kinds of food. SYLVIADÆ, or Warblers, chiefly peculiar for the small size, delicate structure, and vocal powers, of the species it contains. AMPELIDÆ, or Chatterers, distinguished by the enormous width of their gape. MUSCICAPIDÆ, or Fly-Catchers, which are more exclusively confined to insects than the rest of the tribe, and have small and weak legs.

The analogy between the LANIADÆ, or *Shrike* tribe, and the rapacious birds, is extremely evident. In the *most characteristic* specimens of the family, the bill, *which is in all short* and strong, is abruptly hooked at the end, and the notch so deep as to form a small tooth more or less prominent on each side; by this conformation the bird is enabled to take a firm grasp of its food, and to tear it in pieces. The claws, also, are usually strong and sharp. Like many of the the shrikes will sit for hours watching for thei which consists of small birds, and, in the less p species, of insects; and will suddenly dart do such as come within their reach, seize it with th and carry it home to be devoured at leisure. T only pursue small birds, but successfully defen selves against larger ones, even attacking th they intrude in the vicinity of their nests. Many feed also upon frogs and other small terrestrial a This family contains a large number of speci tributed through all quarters of the globe. To the same general structure and habits, differi in subordinate particulars. Some, which are s in powers of flight, pursue insects on the wing; subsist entirely on soft caterpillars, which they for among the foliage of high trees; and others about among bushes and underwood, preying a sects and young or sickly birds, and in the l season destroying great quantities of eggs.

Bill of Shrike.

The MERULIDÆ, or *Thrushes*, have an arch narrow beak, but the point is not hooked, a lateral tooth is not so marked as in the shrikes. theless, the transition from one form to the o very gradual. This family is inferior to the s therefore, in the peculiar organisation adapted pacious habits, but they possess a greater var powers. It is in this family that we find the bird distinguished for the sweetness, compass, and v lity of their song. They are not confined to food, but live much on fruits and berries.

Of this family the common *thrush* (mavis or thrush), the *blackbird*, and *fieldfare*, are well and also characteristic examples. These, as w the *missel-thrush*, *redwing*, *ring-thrush*, &c., are allied species of the same genus, of which the species are distributed over the whole globe. *mocking-birds*, on the other hand, which probably unrivalled for their powers of voice, are restri America: some of them approximate to the shr their habits. A few species of this family have what aquatic habits.

The chief peculiarity which runs through the rous family of SYLVIADÆ, or *Warblers*, is the very size and delicate structure of the species which co it. Excepting the Humming-Birds, we find among elegant little creatures the smallest birds in ex The diminutive golden crests, the nightingale, the throat, and the wood-wren, are examples of this well known to the British naturalist; as are al robins, stone-chats, wagtails, tit-larks, and tit-mi different groups are spread over all the habita gions of the globe, and appear to have a peculia tion in the economy of nature, being specially de to keep down the multiplication of the innum minute insects which lurk within the buds, the or the flowers of plants. The small size of these causes them to escape the notice of the thrush the larger insectivorous birds; whilst their habi vent them from being seized by the swallow an as capture insects only on the wing. The Sylvia for the most part migratory birds; appearing in when the insect world is called into life and acti the renewal of vegetation, and disappearing autumn, when their services are no longer re and when their supply of food diminishes or ce together.

' the family of AMPELIDÆ, or *Chatterers*, the most acteristic examples belong to tropical America, and one is found in Europe—the *wax-wing*. The birds iis family are distinguished from all the other Den-ıtres by the enormous width of their gape, which ıany extends beyond the eye, and in some is nearly ide as in the goatsucker. This bill is not defended ıristles, however, at its corners; and the absence ıese indicates that its wide opening is *not* for the pose of catching insects on the wing, as in the swal- tribe. The chatterers live almost entirely on soft ies and small fruits, which they swallow whole; and food naturally requires a very wide passage. They perpetually hopping among fruit-bearing trees, and eely ever come to the ground. The species which be regarded as the types of this family are very e known, being inhabitants of the deepest and most luded forests of tropical America. They are oftener rd than seen; their notes being peculiarly loud, and red morning and evening from the deepest recesses the forests. Many of them are clothed in a very a and brilliant plumage, which rivals that of the ming-birds.

The MUSCICAPIDÆ, or *Fly-catchers*, are a family hardly numerous than that of the warblers; and are com-ed, like that group, entirely of small birds. This fa-y is more purely insectivorous than any other of the er, few of the species belonging to it ever partaking fruits. These birds have a bill flattened at its base; the sides of the mouth are defended with stiff stles, to confine the struggles of their prey. The mbers of this family are distributed through the perate and tropical portions of the Old World, and temperate parts of the New. Between the tropics, ever, they are replaced in America by the tyrant-kes and fly-catching warblers, both which groups unknown in Africa and India. The *fly-catchers* of ope are small birds, about the size of a sparrow. species is common in Britain, usually arriving it May. It has been observed to take its station he top of a stake or post, from whence it springs n on its prey, catching a fly in the air, and hardly touching the ground, but returning to the same d for many times together.

I. FISSIROSTRES.—The group of Insessores thus desig-d is a comparatively small one; but it is very dis- from all others in the beak, which is short, broad, zontally depressed, slightly hooked, and very deeply , so that the opening of the mouth is extremely . The birds possessing this kind of bill are adapted apturing insects on the wing, receiving their prey all flight into their mouths, which remain open for purpose; and the victim is secured by a gluey lation within, and a strong fence of bristles on the ide, which also serves to protect the soft parts of the from its struggles. Although such is the typical haracteristic form of the bill in this group, it is not ays seen. In some species the bill is stronger and er; and these also are distinguished by having the rnal toe nearly as long as the middle one, and at-ed to it until nearly its end; to these the name *yndactyli* was given by Cuvier, who associated them a separate group. The Fissirostres as a whole are uliarly distinguished by having the powers of flight eloped to the highest degree. All the energies of ir nature seem concentrated in this one perfection; their feet are always very short and weak, and ve but for little else than to rest the body after flight. y may be separated into diurnal and nocturnal, like birds of prey.

his group may be divided into the five following ilies:—HIRUNDINIDÆ, or Swallow tribe; CAPRIMUL-Æ, or Goatsuckers—both these present, in a remark-degree, the organisation which has been described haracteristic of the order; the remaining families e a longer and narrower bill, and are syndactylous—ROPIDÆ, or Bee-eaters; HALCYONIDÆ, or King-fish-; TODIDÆ, or Todies.

he HIRUNDINIDÆ, containing the swifts and swallows, are diurnal birds, remarkable, like the diurnal Raptores, for their close plumage, the extreme length of their wings, and the rapidity of their flight. The *swifts* possess these characters in the highest degree, and surpass all other birds in the power of sustaining a rapid flight for a long time. They are distinguished from the swallows by having the hind toe directed very much forwards; and all four toes are armed with strong crooked claws, which give to the bird such a firm grasp, that it can sustain itself by the side of perpendicular rocks or buildings with great facility. In some species, the tail feathers are very stiff, as in the woodpeckers, and serve as an additional support. They spend their time almost entirely in the air, and pursue insects in flocks, sometimes at a great height, uttering discordant screams. They nestle in the holes of walls and rocks. The *swallows* are less capable of sustaining a continued flight than the swifts, as is shown by their weariness after or during migration, on which occasions they have been seen to alight flat upon the sea. Several species exist in Europe, and many more in other parts of the world. Among them may be mentioned a small species inhabiting the Indian archipelago, which forms its nest of a species of sea-weed, which it macerates in its stomach and then arranges in layers. These *edible birds' nests*, as they are commonly termed, are highly prized as delicacies in China, and constitute an important article of traffic with that country.

The CAPRIMULGIDÆ, or *Goat-suckers*, are nocturnal birds, and have the same light soft plumage which characterises the owls. Their eyes are large, and their gape still wider than that of the swallows, so as to be capable of engulfing the largest insects. They come forth in the twilight and return to rest before morning; but in their other habits they much resemble the swifts, with which, indeed, they are closely connected by intervening species; for, whilst there are goat-suckers which fly by day, skimming over the surface of ponds in small flocks, precisely in the manner of swallows, there is also a swift which only flies at night.

The family of MEROPIDÆ, or *Bee-eaters*, is confined to the warm regions of the Old World; only one species being known as having occasionally strayed to Britain. They have long and pointed wings and short feet, and fly in the manner of swallows. The European Bee-eater annually visits Italy, in flocks of twenty or thirty, and may be seen skimming over the vineyards and olive-plantations, especially pursuing bees and wasps. It is remarkable that they are never stung by these; they seize the insect, and at once crush it by the snap of their powerfully compressive beak.

The HALCYONIDÆ, or *King-fishers*, are remarkable for the great length of the bill, and the extreme shortness of the feet. Their habits are sedentary, much resembling those of the fly-catchers; but their food is more various. The common British species partly lives on small fish, which it takes by precipitating itself into the water, either from the branch on which it had perched, or by suddenly arresting itself during rapid flight, poising for an instant, and then plunging. It returns to its perch to gulp its prey, first killing it by repeatedly beating it against a bough. The TODIDÆ, or *Todies*, are small American birds, resembling the king-fishers in their general form, and may be regarded as representing them in the New World.

IV. TENUIROSTRES.—This group, it has been well remarked, "is among the most interesting of the animal world. Deriving their subsistence, for the most part, from the nectar of flowers, we never fail to associate them in our idea with that more beautiful and perfect part of the vegetable creation, with which, in their delicacy and fragility of form, their variety and brilliancy of hues, not less than by their extracting their nourishment from vegetable juices, they appear to have so many relations." This tribe is confined exclusively to the torrid zone and southern hemisphere. The length and slenderness of the bill are its distinguishing characteristics. It is not by this, however, but by the long filamentous tongue, that the juices of flowers are sucked

up; and to protect this important organ, the peculiar conformation of the bill seems chiefly intended. The tongue is often simply forked; but is sometimes divided into so many slender filaments, as to resemble a painter's brush. The feet are very short and delicate. All these characters are presented in the greatest perfection by the TROCHILIDÆ, or Humming-birds, which are the types of the group. In the CINNYRIDÆ, or Sun-birds, the feet are more lengthened. The PROMEROPIDÆ, or Hoopoes, have the tongue short. The PARADISIDÆ, or Birds of Paradise, are separated by the strength of the feet. And the MELIPHAGIDÆ, or Honey-suckers, have the bill notched.

The TROCHILIDÆ, or *Humming-Bird* tribe, so celebrated for the metallic lustre of their plumage, and particularly for the gem-like brilliancy of some of their feathers, have, within their long slender beak, a tongue capable of protrusion like that of the woodpeckers, and divided almost to the base into two filaments. These filaments are *not* tubular, as they are sometimes described, but are flattened. It is not improbable that the tongue may serve for catching insects, as well as for sucking the juices of flowers; since it is unquestionable that, like others of the order, the humming-birds are partly insectivorous. When hovering over flowers, these birds balance themselves in the air by a rapid motion of the wings, like many flies; and it is by this movement that the *humming* sound is produced, from which they take their name. The flight of these birds, the smallest of the order, is so rapid as frequently to elude the eye. They live solitarily; defend their nests with courage, attacking with their needle-like bills the eyes of intruders, which makes these minute creatures truly formidable; and fight with each other desperately.

This family is exclusively confined to America; and, with few exceptions, to the southern part of that continent and the adjacent West Indian islands. More than one hundred and seventy species are at present known; and others are constantly being discovered. The smallest of them, when plucked, are less than a large humble-bee; and one only, which is much larger than any others as yet known, nearly equals the common swift in size. This bird is also one of the dullest coloured, and its general resemblance to the swifts is very manifest.

The CINNYRIDÆ, or *Sun-Birds*, represent the humming-birds in the eastern continent. They are closely allied to the Trochilidæ in general structure and in the mode of obtaining their food, but their tongue is not so deeply divided. They are small birds, and the males have the most brilliant colours, rivalling those of the humming-birds, during the breeding season; but the garb of the female, and of the male at other times of the year, is much more dull. The PROMEROPIDÆ, or *Hoopoes*, are also restricted to the Old World; one species, the common hoopoe, annually visits Europe, in company with the bee-eaters and other swallow-like birds.

The PARADISIDÆ are among the largest of the Tenuirostres, and seem to live, like the rest of the order, chiefly upon soft vegetable substances. They are confined to New Guinea and the neighbouring islands, and for a long time no specimens were obtained but such as had been deprived by the natives of their legs, whence it was at one time supposed that they were destitute of limbs, and supported themselves entirely upon their airy plumes. The extraordinary development of their feathery appendages is well known; but of the purpose these serve in their economy, no plausible account has been given. The very restricted locality of these birds, and the savageness of the people who inhabit it, have prevented naturalists from obtaining much knowledge of their habits. They are partly supported upon insects.

The MELIPHAGIDÆ, or *Honey-Suckers*, are distinguished *from all the preceding families by their notched bill; their tongue is* terminated by a bunch of delicate filaments, *and the hind toe is so strong and robust, that it serves as a support to the bird during the process of* feeding. This group is chiefly confined to Australia, where its members abound in great variety of form, and where they find a never-failing support in the luxuriant vegetation of that country.

The members of the family CERTHIADÆ, which consists of the Tree-creepers, Nuthatches, &c., strongly resemble the scansorial birds in their habits, but they more closely approximate to the Tenuirostres, and especially the Meliphagidæ, in general structure. Like those, they are of small size; the foot has three of the toes directed forwards, and the bill is more slender and delicate than that of the woodpeckers. The *Tree-creepers* bore into trees, however, and rest upon the tail in climbing, much as do the woodpeckers, but they rather seek for their food in the natural chinks of the trees, or among the mosses and lichens which cover the branches. The *Nuthatches* have a stronger bill, which is straight and pointed, like that of the woodpeckers. They use it, however, rather to scale off the bark than to perforate it, and they do not support themselves upon the tail. They feed not only upon insects but upon various seeds, and are celebrated for the instinct of fixing a nut in a chink while they pierce it with the bill, swinging the whole body as upon a pivot, to give effect to each stroke. The British species is about the size of a robin, its note loud, and its disposition remarkably fearless.

Order II.—Raptores.

The rapacious birds constitute a well-marked group, which may be compared with that of the Carnivora among Mammalia. In comparison with the Insessores, their number is but few; for had it been otherwise they would soon have extirpated the whole race. They usually breed but slowly, leading solitary lives, and never appearing in numerous collections. Most of them are large and powerful birds; and, what is an exception to the general rule, the female is larger than the male, but her plumage is usually of a duller aspect. There are few of this family which do not show great strength of wing; but the power and swiftness of flight that are possessed by the different species, vary with their habits. As among the carnivorous Mammalia, we find some species adapted to pursue and bring down living prey; and these are endowed with the greatest activity and strength of movement. Others feed upon the carcasses of animals that have met their death in various ways, in search of which they have to perform long journeys: these are endowed with great power of wing, but their swiftness is less. The least degree of these faculties among the raptorial birds, exists in those which feed upon decomposing animal matter, or which hunt after such small game as it requires neither swiftness nor power to seize.

Rapacious birds are all remarkable for their strong hooked bill and large acute talons. The force of these is indicated by the size of the muscles of the legs and thighs; and the foot is usually but of moderate length, that its power may not be lost by being diffused over too large a space. It is by the talons that the prey is usually struck first; and, when secured by the feet, it is torn open by the bill. For this purpose there exists in the typical Raptores a strong and sharp tooth-like projection from one or both of the mandibles, which is of material assistance; but in such tribes as feed on carrion or small animals, it is nearly or entirely deficient.

This order is usually divided into two series—the *diurnal* and *nocturnal* Birds of Prey; the former containing the falcons, eagles, vultures, &c., and the latter the owls. As the falcons, vultures, and owls, however, constitute three distinct families of equal rank, it will be preferable thus to consider them. They are chiefly distinguished from each other by the presence or absence of the tooth on the bill, already adverted to; by the degree in which the neck is clothed with feathers or destitute of them; by the size of the eyes, and the presence or absence of a fringe of feathers around them, and other minute characters the relations of which

eculiarities of the several families will be
as when they are particularly considered.
ONIDÆ, or *Falcon* tribe, exhibit the perfec-
order, and correspond very closely in their
its, and the adaptations of structure to them,
eline tribe among the Carnivora. Their
of moderate size; their forms light but
heir flight graceful; and their courage very
ey are technically distinguished from the
which (being both diurnal birds of prey)
st nearly allied, by the bill being toothed,
horter and sharper; and by the acuteness
curve of their talons, which, like those of
be, are retractile. The members of this
lmost universally diffused over the earth's

onidæ have been commonly divided into the
noble; the latter not being susceptible of
d to the (so-called) noble sport of falconry.
division comprehends the *Falcons-proper*,
istinguished from the rest by the size of the
mandible, and by the power of their wings,
ong and pointed. They are the most cou-
ll the family in proportion to their size;
ecially adapted to pursue and bring down
hilst it is on the wing. The *Eagles* may
ed as ranking next to the falcons. They
est and most powerful of the whole group,
and destroy quadrupeds as well as birds.
istinguished from all other Raptores by
egs and feet feathered quite down to the
Hawks, *Kites*, *Ospreys*, and many other
ell known forms of this family.
of the family VULTURIDÆ, or *Vulture* tribe,
whole much larger than those of the pre-
, but they are much less courageous. The
hened, and curved only at the end, and it is
ast toothed. The power of their talons by
rresponds with the stature of these birds,
ake more use of their beak than of their
ce they are not adapted for a contest with
s victim, and rather seek carrion already
; to which they are attracted—whether by
by the smell is still a disputed question.
gorge to repletion; and, in order that the
bird which come most in contact with this
l should not be soiled and matted together
ld be if covered with feathers), the skin of
d frequently also of the neck, is destitute
The legs, too, at their lower part, are
scales, and not with feathers as in the

ures are most abundant in hot climates,
perform important services, by removing
carcasses, which would otherwise be a
ensive and noxious exhalations. They are
ttered over the south of Europe; in Egypt
e numerous; and in tropical America, al-
pecies are fewer, the individuals are much
l.
of STRIGIDÆ, or *Owl* tribe, including all
l birds of prey, is characterised by the
tion of the head to the body, and by the
yes, which are surrounded by a fringe of
heir soft downy plumage, too, may at once
hed from the firm and sharply-cut feathers
l Raptores. All these peculiarities have
their habits. The cavity of the brain is
nally larger than in other birds; and the
n it and the exterior of the skull is occu-
e cells, which communicate with the ear,
assist the sense of hearing. The size of
ain, has an evident relation to the small
ght in which they are usually to be em-
pupils are so large that the birds are
ll day, and hence in part arises the stupid
hich they exhibit. The fringe which sur-
probably has for its object to prevent the
of light from the sides, above, or below,

and to enable them to concentrate their whole power of sight upon the object directly before them—as when we look through the hand contracted into a tube at some object which we desire to see more distinctly. This fringe is most remarkable in the *Barn Owl* and its *allies*. In the owls which are partly diurnal in their

Barn Owl.

habits, this circular fringe is hardly perceptible. The owls seek their prey, not by power of flight, but by stealing upon it unawares; hence the movement of their wings should be as noiseless as possible; and this object is peculiarly answered by the downy character of the whole plumage, and by a particular arrangement of the barbs of the feathers at the edge of the wings. The external toe, as in the osprey, can be directed backwards as well as forwards. Their period of activity being twilight, or during moonlight nights, that of their repose is during the day; and, if then disturbed, they make the most ludicrous gestures, which seem principally intended, however, to enable them to get a clear view of the object which annoys them. Owls are feared by all smaller birds, which do not hesitate, however, to attack them during the day. Their food is wholly animal; consisting of mice, frogs, and other small terrestrial vertebrata, small birds, fish in some instances, and insects.

Order III.—Scansores.

The peculiar disposition of the toes in the birds of this order, two being placed behind, and all four arising nearly on the same level, gives them great facility in climbing the branches of trees, but proportionally impedes their progression on level ground. By this character they may be readily distinguished from all other birds, notwithstanding many and striking variations in the form of the bill and wings. The nests of this order are generally less skilfully constructed than those of the Insessores; and the birds often employ for this purpose the hollows in decayed trees: one family is remarkable for depositing its eggs in the nests of other birds. Their flight is ordinarily but moderate. Their nourishment consists of insects and fruits; and the species feeding upon each may be distinguished by the greater or less robustness of the beak. This order may be divided into the four following families:—1. PICIDÆ, or *Woodpeckers*, which may be regarded as the types of the order, presenting its peculiar characters in the highest degree. 2. CUCULIDÆ, or *Cuckoos*. 3. RAM-

RHAMPHASTIDÆ, or *Toucans*. 4. PSITTACIDÆ, or *Parrots*. This last family is separated from the rest by so many peculiarities, as almost to constitute a distinct order.

1. The PICIDÆ are chiefly characterised by their long, straight, angular bill, the end of which is compressed into a wedge, adapted to perforate the bark of trees. The tongue is also of peculiar conformation, being worm-like in its shape, barbed at its point, and capable of being suddenly thrown out to a great length. By this mechanism the bird can introduce it into holes and crevices, or even under the loose bark of trees infected by those peculiar insects which it is its province to destroy; and these they obtain, not only by transfixing them with the barbed point, but by causing them to adhere to it by means of a viscid glue with which it is covered. The feet of these birds are short but very strong; the nails are broad and crooked. As an additional and powerful support in their rapid and perpendicular ascent up the trunks of trees, their tail-feathers are very firm, and terminate in points; so that this member, being pressed against the bark, is of assistance to the bird in maintaining its perpendicular attitude. The species of this family are extremely numerous, and are generally distributed over the globe, with the exception of Australia.

2. The CUCULIDÆ, or *Cuckoo* tribe, are a numerous and diversified race, spread over all the temperate regions of the globe. They are principally distinguished by the short and slender make of the feet, of which one of the back toes can be occasionally brought forwards. The beak is of mean length, slightly arched, and compressed at its sides. Most of this family are migratory, and scarcely any build nests of their own. They fly rapidly, and subsist upon insects and fruits. The common cuckoo has long been celebrated for its habit of depositing its eggs in the nests of other birds, generally insectivorous species; and, what is more extraordinary, the foster parents, often of species inferior in size, bestow as much care upon the young cuckoo as upon their own proper nestlings, even though the rearing of this involves the destruction of their own young. For, if other eggs are hatched with that of the young cuckoo, the latter speedily ejects the rightful tenants from the nest, and receives all the attention of their parents. If it were not for this, it must speedily perish for want, from the frequency and urgency of its demands for food, and its incapability of assisting itself, up to an advanced age. The cuckoo feeds principally on caterpillars, and also devours cherries and the smaller fruits; it is sometimes seen to pursue insects on the wing. It is an unsocial bird, seldom congregating with its species, except at the time of migration.

3. The RAMPHASTIDÆ, or *Toucan* tribe, are easily recognised by the enormous size of the bill, which is nearly as large and long as the body itself, but internally very light and cellular; its edges are toothed, and both mandibles are arched towards the tip. The tongue is narrow and elongated, and laterally barbed like a feather. Their feet are formed more for grasping than climbing; accordingly, they always live among trees, and proceed by hopping from branch to branch. So light and elegant are their movements, that in the living bird, in its natural situation, the disproportionateness of the bill does not attract observation. Its large size is to give a more extensive distribution to the nerves of smell, for the purpose of enabling the birds to discover their food, which consists chiefly of the eggs and young of other birds, and also to enable them to obtain it, by dipping it into the deep hanging nests which abound in their natural abodes, for which purpose its surface is endowed with considerable sensibility, enabling it to feel the contents of these nests. The size of the bill prevents their swallowing their food in the usual manner, and they accordingly throw it into the air and catch it in the throat as it descends, a habit practised by many other birds also, in which the tongue is unusually short, or of a form unfit to assist in swallowing. Toucans are mostly large-sized birds, and clothed with brilliant plumage. They are peculiar to the warm regions of America, where they live in small flock rent species often associating together. They n the trunks of trees.

4. The PSITTACIDÆ, or *Parrots*, constitute a which is very widely diffused through the torr in both new and old continents, and is scarcel beyond it. It contains a large number of speci of which has its peculiar locality, the short w these birds not enabling them to traverse larg of sea. They correspond with the other Scans little else than the structure of the foot, and formed rather for grasping than for climbing. I used for conveying food to the mouth, a peculia where else seen but in the goat-suckers. Their stout, hard, and solid, curved and pointed ver as in the diurnal birds of prey, which they may be regarded as connecting with this order. Th sist, however, upon vegetable food at all ages, an a peculiar provision for supplying their young, gous to that which will be described as posse the pigeons. Their jaws are set in motion by a variety of muscles than are found in other birds. tongue is thick, fleshy, and rounded; and their or organ of voice, is more complicated than in birds—by which peculiarities they gain their fac imitating the human voice as well as other Their voice, in a state of nature, however, is lo harsh. They use their crooked bills in clam upon trees, and nestle in hollow trunks. They upon the succulent parts of vegetables, especiall and fruits. They are distinguished from the rest scansorial birds by their intelligence and docility, ties in which some species are unsurpassed members of the class.

Order IV.—Rasores.

This order, corresponding with the *Gallina* poultry tribes, consists of birds with bulky bodi essentially formed to live upon dry ground. Th the most easily domesticated of the whole class furnish man with a considerable amount of sa and wholesome food, and their fecundity is very The majority of them are at once known by their thick legs, long necks, short wings, and large tails; and the heads of many, especially of the are ornamented with elegant crests. The form bill is well seen in the common cock; the upper ma is vaulted, and, at the same time, destitute of any the whole is short and strong, having a peculiarly appearance. The wings are muscular, but their fe have rounded ends; and the breast-bone pres much smaller surface for the attachment of the m than in the previous orders, so that the power of is comparatively small. Their food, with few tions, is entirely vegetable, and their chief sup derived from the seeds and grains of various Many of them eat also the green portions, and this respect nearly peculiar among birds. Alm of them have a large crop and an extremely mu gizzard.

The Rasores are mostly social birds, and are r domesticable. In general they deposit and hatch eggs on the ground, in a rudely-constructed straw, but some of them, which reside in forests, in trees. Each male usually associates with females; he takes no part in the construction nest or in rearing the young, and these are gen numerous and able to run about and provide for selves the moment they quit the shell. When the case, the male is larger and more gaily co than the female. But in the few species which ciate in pairs, such as the ptarmigan and partrid sexes nearly or quite resemble each other, both and colour.

From the strong resemblance which subsists all the birds of this order, the division of them families is difficult. The following may be re as the most natural distribution of them into gro

1. PHASIANIDÆ, *Pheasant* and *Fowl* tribe, distin

f the shortness of the hind toe, the presence of spurs
n the legs, and the beautiful development of the tail.

Cracidæ, or *Curassow-birds*, a tribe of poultry re-
ricted to America, the legs of which are destitute of
ours, and the hind toe so much developed, as to give
onsiderable power of perching. 3. Tetraonidæ, *Par-
idge* tribe, having a very short hind toe, and also very
ort tails. 4. Columbidæ, the *Pigeon* tribe, which are
uch isolated from the rest, and may be regarded as
some respects allied to the Insessores. From the
ell-known character of most of these birds, the de-
cription of the families need not be detailed.

1. The whole of the Phasianidæ, with the exception
f the turkey, are restricted to the Old World. The
haracters by which they are known from the other
amilies, are those which peculiarly distinguish the
rder; hence there can be no hesitation in regarding
his family as its type. It is in the hotter parts of Asia
hat the most brilliantly coloured birds of this family
resent themselves in the greatest numbers. The *pea-
ock*, for example, abounds in the forests of India; and
he wild specimens even surpass the domestic ones in
rilliancy. The *turkeys* are the only representatives
f this group in the New World, whence they were
rought by the early discoverers, and are now quite
aturalised in Europe. The *guinea-fowl* is originally
native of Africa, where it lives in large flocks, in the
eighbourhood of marshes. Its noisy and querulous
disposition renders it incommodious in poultry-yards,
although its flesh is excellent. Of our common fowls,
he original stock, like that of most domesticated races,
s obscure; but it was probably a species of *gallus*, in-
abiting Java or Sumatra. The *pheasants* were origi-
ally brought from the banks of the Phasis in Asia
Minor; several very handsome species abound in diffe-
ent parts of Asia.

2. The Cracidæ, or *Curassows*, which are restricted
o America, offer a remarkable contrast, in their plain
colours, to the brilliant plumage of the Asiatic races
hich occur in nearly the same parallels of latitude.
hey are equally capable of domestication with the
owls; and their flesh is of excellent quality.

3. The Tetraonidæ, or *Grouse* tribe, also differ strongly
rom the Phasianidæ, in the comparative dullness of
heir plumage, as well as in the extreme shortness of
he tail. The *grouse* are formed to inhabit cold climates,
nd are found in Europe, Asia, and North America.
he largest species, commonly known as the caper-
ailzie, is the largest of the true poultry, surpassing
he turkey in size. It particularly feeds on pine shoots.
hese birds strut with outspread tail, in the manner of
he turkeys; and are polygamous. The *ptarmigan*
ive in pairs, and do not strut in this manner; the more
enerally diffused species become white in winter;
here is one species peculiar to Britain, however—the
oor-fowl or red grouse—which does not change.
Nearly all the grouse have the toes and legs more or
ess covered with soft feathers; a character which dis-
ppears in the *Partridges*, an extensive group, scat-
ered in nearly all parts of the Old World, but unknown
n the New. In the *Quails*, we have the miniature re-
emblance of partridges, but the tail is so short as to
e nearly imperceptible.

4. The family of Columbidæ, containing a large
umber of elegant and lovely birds, appears as much
olated from the rest as the Parrots are from the
cansores. Although it is particularly numerous, and
pread over every part of the world, there is no diffi-
ulty in distinguishing its members from all other birds.
ne of their chief peculiarities is the *double* dilatation
f the crop, which expands on each side of the gullet;
nd the young are fed with grain disgorged from this
eceptacle by the parent, and impregnated with a se-
retion which it forms. These birds live invariably
n pairs; they nestle in trees, or in the holes of rocks,
nd lay but few eggs, though they breed often. This
amily includes the whole of the well-known tribe of
igeons and *Doves*. Some of the tropical species are of
onsiderable size, and of very rich plumage.

The *passenger-pigeon* of North America breeds in such immense numbers, as to darken the air for a considerable period when the flock takes to flight, and to destroy all the herbage where they settle.

Order V.—Cursores.

This order contains a small number of species, differing so considerably from one another, that almost every one may be regarded as belonging to a different family, and yet all agreeing in one characteristic—the non-development of the wings, and the enormous size and power of their legs—by which they seem justly separated from all other orders of birds. They may be regarded as in many respects intermediate between the Rasores and Grallatores; but they also present many remarkable points of approximation to the Mammalia. The most obvious of these are the loss of the powers of flight, and the dependence on the legs alone for locomotion; and the deficiency (most conspicuous in the cassowary) of barbs upon the feathers, so that they much resemble hair. In their internal structure, moreover, similar approximations exist: thus the ostrich has the rudiment both of a diaphragm and urinary bladder, which organs are wanting in other birds, whilst all Mammalia possess them.

Although destitute of the powers of flight, wings exist in an undeveloped or rudimentary state; and it has been observed that, when the ostrich is running, its small anterior members execute analogous motions, which seem to assist it. Their muscles, however, requiring but little strength, the sternum has no prominent keel, but is flat as in man; whilst, on the other hand, the muscles of the posterior extremities are of enormous size and power. Only five genera are at present known to exist in this order; and of one more, which seems now extinct, remains are preserved to us which indicate its existence two centuries since.

The *struthio*, or ostrich, is a well-known bird in the tropical parts of the eastern hemisphere; its feathers do not differ so widely from those of other birds as do those of the cassowary, being furnished with barbs; but these do not adhere to one another, so that no continuous resisting surface is formed. Still the wings present sufficient expanse to assist the bird in running; which movement it executes so swiftly that scarcely any animal can overtake it. The *rhea*, American ostrich, or naudon, is about half the size of the African ostrich, and more thinly covered with feathers. Two species exist, one inhabiting the central parts of South America, where it is as abundant in some localities as the ostrich in Africa; and the other in Patagonia, where it is rare. The naudon is easily tamed when young, and its flesh is eaten: it has been observed to swim with facility.

The *casuarius*, or cassowary, has wings shorter than those of the ostrich, and quite useless in aiding progression. Besides the peculiarity of the feather, which has been already mentioned as giving it the appearance of hair, there is another, consisting in the great development of the *accessory plume*, so that two or even three equal stems appear to grow from the same quill. In its general form and aspect it much resembles the ostrich, but differs in the structure of its digestive organs. The head is surmounted by a bony prominence, covered with horn. The skin of the head and neck is bare of feathers, and of a bright blue and flame colour; it is furnished with wattles, like those of the turkey-cock, which change colour under the same circumstances. It lives on fruit and eggs, but not on grain. It is an inhabitant of the Indian archipelago, and is the largest-bodied of birds, next to the ostrich.

The *dromaius*, or emu, is a native of New Holland, and is closely allied to the cassowary; but its plumage is more depse, from its feathers being more barbed.

The *apteryx* of New Zealand appears, of all birds, to have the wings reduced to the most simple rudiments; and it presents, at the same time, many points of approximation to the Mammalia. It has a complete diaphragm, and no air-cells exist in its abdomen; nor are any of its bones hollow. The bill is long and slender;

the rudiments of wings are terminated by a sharp hook, which seems to be an important organ of defence; the feet have three toes in front, and the rudiment of a fourth behind, the claw of which is alone externally

The Apteryx.

visible. The size of this bird is about that of a domestic fowl, and its colour a deep brown. It runs with rapidity, and defends itself vigorously with its feet. It is nocturnal in its time of action, and subsists on insects. Its native name is *kiwi-kiwi*, derived from its cry.

With this group is probably to be associated the *dodo*, now known to us only by some very imperfect remains, and by the paintings and descriptions of naturalists nearly two centuries since, when it seems to have existed in the islands on the eastern coast of Africa, especially Madagascar; though no traces of it can now be found there.

Order VI.—Grallatores.

The Grallatores, Waders or Stilt-birds, derive their name from their habits and conformation. Their long legs raise up their bodies as it were upon stilts; and, thus elevated, they frequent the banks of rivers and lakes, marshes, the shores of estuaries; and, whilst resting with their feet upon the land, derive their nourishment chiefly from the water—some feeding exclusively upon small fishes, aquatic mollusca, worms, small reptiles, and water insects—whilst others are of more terrestrial habits and food. Such as are more especially aquatic have a short web to their toes. Their wings are long, affording them the power of changing their habitation with the seasons, which most of them enjoy. During flight, they stretch out their long legs behind, to counterbalance their long necks; and the tail is always extremely short, its function as a rudder being transferred to the legs. They mostly construct or choose their nests upon the ground; and the young are enabled to run about as soon as hatched, except in those species which live in pairs. The Waders are remarkable for their power of preserving a motionless position upon one leg for a considerable time.

The Waders may be grouped together under four families, principally characterised by the form of the beak:—1. Ardeidæ, the *Heron* tribe, in which the beak is long, thick, and stout, and has usually cutting edges, as well as a point. 2. Scolopacidæ, the *Snipe* and *Woodcock* tribe, in which the bill is long, slender, and feeble. 3. Rallidæ, the *Rail* and *Coot* tribe, in which the bill is less slender; but the chief character is derived from the extreme length of the toes. 4. The Charadriadæ, or *Plover* tribe, in which the bill is of moderate size, and the back toe either entirely absent, or not long enough to reach the ground.

1. The family of Ardeidæ includes the Cranes and Storks besides the true Herons. By the *Cranes* this order is connected with the last, for nearly all of them are large birds, with short powerless wings; their necks long and frequently naked, and their habits more terrestrial than those of any of their congeners. They feed almost exclusively upon vegetables; and have a muscular gizzard. Most of them live in warm latitudes; and those which frequent Europe migrate southwards in the autumn and return in the spring.

The Herons differ from the cranes in being decidedly carnivorous; they are known by a larger and more pointed bill, and by the greater length of their legs. Their stomach is a large undivided sac, but slightly muscular. As a whole, they are the most beau all the Waders; not so much, however, on acc the colours of their plumage, as from the elegan and prolonged feathers which ornament nearly species. They build in societies, usually in tre neighbourhood of banks of rivers; but genera and live solitarily. They are chiefly supported for which they watch in some concealed situation, fixing them as they pass, with their long and sha The *storks* are less aquatic in their habits than of the family, nestling by preference on tow chimney-stacks; each pair returning to the sa in the spring, after having passed the winter in The common white stork of Europe is held in popular respect, owing to its utility in destroying and other noxious animals; but in England, every one that shows itself is shot, whence the is very uncommon.

2. The Scolopacidæ, or *Snipe* tribe, character their long, slender, and feeble bill, which only them to bore in the mud in search of worms an insects, have all nearly the same conformation, th habits, and the same distribution of colours; an is difficult to distinguish amongst them. They a remarkable for the delicacy of their legs, and th ness of the hinder toe. They run with vast celeri have considerable powers of flight; and they ha the faculty, in part, both of swimming and diving. The females are usually larger than the males, and lay their eggs on the ground, in little or no nest. Their geographic dispersion is as wide as their locomotive powers are great. The shores of every part of the world abound with *sandpipers* and *curlews*; whilst snipes, woodcocks, &c., frequent the inland waters and marshy grounds. The *stilts* surpass all the rest of this family, and probably therefore all other birds, in the length and slenderness of their legs.

Stilt.

3. The Rallidæ, or *Rail* tribe, are furnish very long toes, for traversing aquatic herbs they are even useful in swimming, especially species in which their surface is extended by a of membrane. They are also distinguished by t of the body, which is very thin and narrow—a ture adapted to their habits and mode of life, an live for the most part in the thick and tangled of the reeds and aquatic vegetables which cl sides of rivers and morasses. Their wings ar or of moderate length, and their flight feeble; h run with considerable swiftness. They are for t part solitary and timid birds, hiding themselve least approach of danger, but quitting their semi- retreats morning and evening, to feed in mo spots. The flesh of these birds is delicate; they live chiefly upon aquatic seeds and veget ment, they may be regarded as aquatic Gall By the peculiar form of their bodies, and their of running, they are able to make their way dense masses of reeds and high grass, with a facility, as to escape even after being dea wounded. The females are mostly larger t males, and exceed them also in brightness of co The *rails*, *coots*, and *crakes*, are the chief British of this family, and are sufficiently characteristi

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ZOOLOGY—(CONTINUED.)

the family Rallidæ has been classed a remarkd, the place of which is rather doubtful. This is *ingo*, which is perhaps rather to be considered f the duck tribe, with an inordinately long neck s. The front toes are webbed to their ends, and d toe is extremely short. The mandibles are y bent downwards, about the middle of their and they are roughened at the edges, like those lucks, to which the fleshiness of the tongue also n alliance. They feed on mollusca, insects, the f fishes, &c., which they seize by means of their k, turning the head downwards, to use to advan- crook in the upper mandible. They construct ests in marshy situations, placing themselves of them during the act of incubation, being in- ted by the length of their legs from sitting on the usual manner.

Flamingo.

e CHARADRIADÆ, or *Plover* tribe, are less aquatic ost of the other families. The legs are long, back toe is either quite absent, or so short as each the ground. They live only on sandy and ered shores, or on exposed commons, congre- in flocks, and running with great swiftness. The sually of moderate strength, enabling these birds trate the ground in search of worms, to obtain they have the habit of patting with their feet, causes the worms to rise. The species in which l is more feeble, frequent meadows and newly ed land, where this food can be obtained with ease; those which have stronger bills subsist additionally on grain, herbage, &c. Of the plovers several species exist in Britain; and others are distributed through most other countries. Some chiefly frequent the sea-coast, and others the upland moors. The *Lapwings* are nearly allied to the plovers, and like them are migratory, passing the winter in warm latitudes; they are peculiar to the eastern hemisphere. They are very noisy birds, screaming at every sound they hear, and defending themselves with courage against birds of prey. They derive their name from the stratagem by which they lure away intruders from their nests; they drop their wings in flight, appearing as if wounded, and thus induce their pursuers to follow them to a considerable distance.

Order VII.—Natatores.

The Swimmers are, of all the orders of birds, the most easily recognisable by the structure and position of their oar-like feet. This peculiarity, which occasions that awkwardness of gait on land which every one may observe in ducks and geese, is extremely favourable to those birds whose "business is in the great waters." The body is boat-shaped, and the neck is very long in proportion, for the purpose of reaching prey beneath the water when the bird is floating on the surface. The thick downy covering is rendered impervious to water by the abundant application of the oily secretion. The bones of these birds are not hollow, like those of the rest of the class, but are filled with an oily marrow. In this, and in other points, their structure approximates to that of reptiles. Their circulation is less energetic than that of the other orders, and is capable of being considerably retarded in diving birds, by the obstruction of the respiration, without injury.

As the water is the element on which these birds are formed to move, so does it also supply them with food. Some of them live on aquatic plants and submarine insects, but the greater proportion prey upon fish and those innumerable swimming and creeping things which subsist in the sea and cover its shores. In general, several females associate with one male, and the young are hatched in a condition which renders the co-operation of both parents for their support unnecessary, being able to take to the water and swim about in search of food, the instant they are liberated from the egg-coverings.

This order may be divided into five families—1. The ANATIDÆ, or *Duck* tribe; 2. The LARIDÆ, or *Gulls*; 3. The PELICANIDÆ, or *Pelicans*; 4. The COLYMBIDÆ, or *Divers*; 5. The ALCIDÆ, or *Penguins*. The three first are distinguished by the length of their wings, which enables them to fly well, while in the two latter these members are so short, that they seem perfectly useless for any other purpose than that of fins.

1. The ANATIDÆ are distinguished by a thick bill, which is horny only at its extremity; the remainder of the mandibles being invested with a soft skin, which in

other birds is found only at their hinder part. This skin in the ducks is extremely sensitive, and by it the animals take cognisance of the food contained in the mud, into which they plunge their bills. The edges of the bill are roughened, either by plates or small teeth arising from it; and the tongue is large and fleshy. These birds live more in fresh waters than in the sea; and many of them (such as geese and swans) are exclusively vegetable-feeders. The ducks, on the other hand, subsist in part upon animal diet; and one tribe of them, the mergansers, feed almost exclusively upon fish. Under the general designation of *ducks*, *geese*, and *swans*, all the birds of this family may be arranged; and as these typical forms are so well known, it is unnecessary to dwell longer on it, although the habits of many species are extremely interesting. This family is very extensively diffused over the earth's surface, and supplies man with an important amount of food, and with the greater part of the *down* which contributes so greatly to his comfort and luxury.

2. The LARIDÆ, or *Gull* tribe, more resemble the higher orders of birds in their general structure, but are deficient in that which constitutes the perfection of the order—the power of swimming and diving. The wings are very long, and their powers of flight considerable. The feet, although webbed, are so constructed as to enable them to walk with ease along the shore in search of food; the legs are slender, and sometimes so long as to resemble those of the waders; the hind toe is very small, and sometimes wanting. Many of the birds of this tribe have a tendency to associate in flocks. In consequence of their capability of protracted flight, they are met with at a greater distance from land than most others; many species are almost constantly on the wing, and brave the most violent storms. They seem to devour almost every description of animal and vegetable food. This family includes, with the *Gulls*, the *Skuas*, *Terns*, *Petrels*, and also the *Albatross*, which is the largest of all aquatic birds, and in its general habits may be described as a sort of marine vulture. It is extremely voracious, and devours almost any thing that falls in its way. Though its wings are powerful, its flight is by no means lofty. No species of it exist in the northern part of the Atlantic; but it is very abundant beyond the Tropic of Capricorn, and is one of the great enemies of the flying-fish.

3. The PELICANIDÆ, or *Pelican* tribe, are characterised by having the hind toe united to the rest by one continuous membrane: notwithstanding this conformation, which renders their feet perfect oars, they are almost the only Natatores which perch upon trees. All of them fly well, and have short legs. They are a large, voracious, and wandering tribe, living for the most part on the ocean, and seldom approaching land but at the season of incubation. The *Pelicans* themselves are remarkable for the length of the bill, which is armed with an abrupt hook at the end; the width of the gape is excessive; and the skin hanging from the lower jaw, and forming the throat, is so extensible as to dilate into a pouch capable of holding a large quantity of fish. The *Cormorants* are allied to these, and are remarkable for being not only voracious but docile, so that they have been trained for fishing, as hawks for fowling. These are very widely distributed over the earth's surface, whilst the pelicans are restricted to the warmer latitudes. The *Frigate-birds* are nearly allied to the Cormorants, but differ from them in the excessive spread of wing (which renders them the most powerful flyers in this order—perhaps not being surpassed by any other bird), and in the form of the tail and bill. They feed upon fish, especially flying-fish, both darting at it themselves, when near the surface, and obtaining it from other birds, whom they compel to drop their prey. The *Gannets* are allied to the frigate-birds; but the *wings are less* extended, and the powers of flight in*rior*. *Some species* are termed *Boobies*, from the stu*ity they exhibit* when attacked. A species about the *of a goose* is very common in the British seas, and *ds especially* on the Bass Rock, in the Firth of Forth. The Gannets take their prey by ho the air at some little distance above the sur then dropping down upon any fish that they rising within their reach. The air-cells are ver developed, especially under the skin of the brea is almost completely separated by them from th beneath; and it is probable that they may se elastic cushion, to break the force with which of the bird would otherwise impinge on the w

4. The COLYMBIDÆ, or *Divers*, may perhap garded as intermediate in structure between t tribe and the next family. They are all mari with a lengthened, strong, straight bill. The w in general remarkably short; and the feet plac behind the point of equilibrium of the body, t will not allow the birds to walk upon land even as ducks; but they can pursue the fishes upo they feed, even beneath the water, with great s They are few in number, and are chiefly con the seas of northern regions.

5. The ALCIDÆ, or *Auk* tribe, exhibit the m markable adaptation of the structure of the bir aquatic life, with which the entire order pres This is best seen in the *Penguins*, whose wings a small, and covered with mere vestiges of fe which resemble scales; so that they serve as adm fins or paddles, but are totally useless for flight. feet are placed very far back, so that when upo the bird stands nearly erect. Having no po flight, and not being able to run, the penguin is overtaken with ease upon land; but once in the it distances its pursuers, swimming with the sw rapidity of a fish, and springing several feet ove obstacle that may impede its course.

CLASS III.—REPTILES.

The class of Reptiles, which is the next to be sidered, presents us with more diversity of form am its separate orders than any other division of the tebrated sub-kingdom. Scarcely any animals are unlike in external aspect than tortoises and serp yet we shall find that these extreme forms are conn with each other by a gradual series; and the int differences are not so great as to prevent their as tion into one class, distinguished by characters are common to all. These characters are—thei power of maintaining heat, or cold-bloodedness, a from the imperfect aeration of their blood, of only a portion is sent to the lungs at each impul the heart (see article PHYSIOLOGY); their oviparo production; the respiration of air exclusively d the whole period of life, no metamorphosis taking in this class; and the protection of the skin by scales or plates. By the first two they are distingu from Mammalia and Birds, and by the others Fishes and Amphibia.

The deficiency in the oxygenation of the blood, bined with the slowness and feebleness of the ci tion, is connected with general inactivity of the tive functions, as well as with obtuseness of sensatio sluggishness of locomotion. It is a curious result feeble exercise of these functions, that, as in Amp they may be suspended for a considerable time w apparent injury to the animal; and that parts sepa from the body retain for a long period much o low degree of vitality which they usually exhibit i nexion with it. Although at present Reptiles a to perform a comparatively insignificant part i economy of nature, especially in temperate cli where their numbers are few and their powers l we learn from the records of geology, that the a period in the earth's history, long antecedent creation of Birds and Mammalia, when gigantic m of this class not only constituted the chief tena the earth, but extended their dominion over the of the sea.

The three well-known forms, Tortoises, Liz

h afterwards ejects the superfluous fluid, these prevent the food from being regurgitated with it. most important species of this group are the *midas*, or green turtle, so much valued as an of food; the *chelone imbricata*, or hawk's-billed the plates upon whose carapace furnish our tor- all; and the *sphargis*, or leathery turtle, which shell covered by a thick leather-like skin. They chiefly found in warm latitudes.

EMYDÆ, *Fresh-water Turtles*, or *Mud-Tortoises*, rmediate in form between the family just de- and the Land-Tortoises. The character by which ay be most constantly separated from the marine , is the distinctness of their toes, which are ter- d by claws; but a web still exists between the hich assists them in swimming, and also prevents t from sinking into mud. Rivers, ponds, and g streams, are the haunts of these animals, of one species is common in the south and east of , and is fattened for food in Germany and Russia, it is considered a delicacy. The food of the e consists of molluscs, aquatic insects, small fish, , and vegetables. The species at present existing attain any great size, their shells varying from d a half inch to a foot in length; many of the pecies are much larger. In several of the Emydæ apace and the plastron are but loosely united; pieces of the latter are moveable upon one an- This is the case in the *Terrapins*, or Box-Tor- which are able to draw the head and limbs com- into the shell, and to close the latter by folding erior, and in some instances the posterior, divi- the plastron against the carapace.

family of TESTUDINIDÆ, or *Land-Tortoises*, is uished by the highly arched carapace, and, still by the short clubby feet, of the animals compos- Their armour is harder and thicker in propor- their size, and also more firmly united together, at of the aquatic species. The neck and legs are and are capable of being drawn entirely within ll; so that the whole structure of the animal is d for passive resistance. The feet, shaped very ike those of the elephant, are adapted for walk- firm ground only, as the surface they present is nall. They are subdivided into toes, of which are five on the fore feet and four on the hind; ese are furnished with short conical claws, well d for digging. These animals are of the most sive character possible. They feed only upon nd vegetables, and upon the worms and slugs fest these; during the summer they live in woods ng herbage; and they pass the winter, in cold s, beneath the earth, where they burrow and They are generally dispersed in all the warm mperate latitudes; but they do not naturally to Great Britain, although individuals that een introduced have lived to a great age in this y. The commonest species is the *Testudo Græca*, s an inhabitant of most of the continent of Europe, as of many parts of Asia and Africa; it espe- bounds near the shores of the Mediterranean. om attains above a foot in length, or weighs more ree pounds. The flesh forms an article of food ece. In the East Indies are found species which to a much greater size. An individual in the ion of the Zoological Society of London, measures inches along the curve of the back, the breadth shell being 2 feet 1 inch, and the weight of the animal 285 lbs.

Order II.—Enaliosauria.

order Enaliosauria has been founded upon two rdinary fossil genera, the *Ichthyosaurus* and the *aurus*. Of these little else than the bones has reserved to us; and it is therefore impossible to with certainty in regard to many parts of their sation. The character by which they are espe- connected with the Chelonia is the flattening of xtremities into fin-like paddles, resembling the

of turtles. They must have been, therefore, marine animals, endowed with scarcely any power of movement on land; but, although in many points analogous to fish, it is nearly certain that they breathed air like reptiles in general, and that they must have occasionally come to the surface to respire. Moreover, from the remains found in proximity with them, it may be surmised with probability that they fed upon marine animals alone, especially upon the various forms of Cephalopoda, which were particularly abundant at the epoch of their existence.

The general form of the *Icthyosaurus* (or fish-lizard) appears to have been not unlike that of a crocodile, with the substitution of fins for feet. The head is lengthened into a narrow pointed muzzle, and the jaws armed with sharp and formidable teeth; it had eyes of enormous size, which must have given it an extraordinary aspect, and probably enabled it to see by night. The skeleton of the commonest species (*I. tenuirostris*) usually measures 3½ feet in length; but portions of another kind have been found, which must have belonged to animals of above 20 feet. It is probable that the skin was destitute of scales, like that of the Amphibia; and, from recent inquiries, it appears that it possessed a sort of cartilaginous fin upon its back, like that of many Cetacea. This animal may thus be considered as presenting a very remarkable combination of the characters of other classes. Its remains, which are found in the lias and oolitic formations, are more abundant in England than in any other country in Europe.

The *Plesiosaurus* was distinguished by the extraordinary length of its neck, which, in the commonest species (*P. dolichodeirus*), occupies nearly half the entire length. The head is very small in proportion, and the tail is short, stout, and pointed. The cervical vertebræ exceed in number those of any other animal known; and, in their conformation, have a good deal of resemblance to those of the body of a snake. It is the conjecture of Mr Conybeare, by whom the first scientific investigation of the characters of this strange creature was made, that as it breathed air and had frequent need of respiration, it generally swam upon or near the surface of the water, arching back its long neck, like the swan, and plunging it downwards at the fishes that passed within its reach. The greater length of its extremities would enable it to move on land with somewhat less difficulty than the Icthyosaurus; and it might have very probably lurked in shallow water along the coast, where it could find shelter from its enemies, and a place of ambush from which to dart out its long neck upon its own prey. Its length seems generally to have been about ten feet.

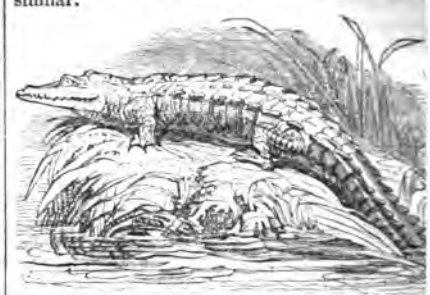
Order III.—Loricata.

The order Loricata, including the Crocodiles, Alligators, and Gavials, may be regarded as in many respects intermediate between the fresh-water Tortoises and the true Lizards. The body is enclosed in a sort of plate-armour, of which the separate portions are closely fitted together, and are capable of great resistance. Another character by which they are distinguished is the flattening of the foot, which is furnished with a kind of web between the toes, like that of the Emydæ: in the true lizards no such provision for aquatic habits is found. This order includes the most bulky reptiles at present known to exist. Some of them attain the length of thirty feet, and a circumference of seven or eight; so that, with the exception of the elephant, the rhinoceros, and the hippopotamus, there is no terrestrial animal exceeding these in dimensions.

Although capable of moving on land, however, the greater number of them prefer the water, and show their chief activity in it. Besides the expansion of the foot, they are adapted for swimming by the lateral compression of the tail, which thus acts as a large and powerful fin. The crocodiles and their allies are all inhabitants of the rivers and fresh waters of warm climates; and they are all purely carnivorous. They destroy their prey by holding it beneath the surface of the water until it is drowned; the position nostrils, and the arrangement of the air-passag such that they are themselves enabled to breath the process. They cannot swallow under wat ever, and their habit is to hide their prey in the bank, until it has become putrid, and then it at their leisure.

The conformation of the neck is such, that cannot be moved very far from side to side, th play in the vertical direction is not limited. mal finds it difficult, therefore, to turn itself ra land; and thus a sure means of escape presen in those rare cases in which it leaves the wate suit of human prey. The tail, however, is very from side to side, and is of great importance in sion. It also serves as an important weapon, armed, like the back, with very strong upright which form sharp ridges or crests in their centr this weapon the crocodiles can inflict terrific upon their enemies. This group is entirely con the countries bordering on the equator. The which compose it may be considered in three sions—the *Crocodiles*, chiefly inhabiting the N other African rivers; the *Gavials*, found in the and other Asiatic rivers; and the *Caymans* or *Al* confined to the New World.

The characteristic differences of these three d are best marked in the form of the head. The have the muzzle exceedingly prolonged and somewhat resembling in form the beak of the bill. In the true *Crocodiles* it gradually widen the point towards the eyes; and in the *Caym* snout is much more rounded, and the head is in proportion to its length. These last appe adapted to aquatic habits than the Crocodiles vials, for the feet are not webbed to nearly th extent as in the latter, and the ridge which in the surface of their hind legs is wanting in the tors. With these exceptions, however, the gene formation of all, as well as their mode of life, similar.



Alligator.

Order IV.—Sauria.

The order Sauria comprehends all the animo monly known as Lizards. They are intermediate the Loricata and Serpents, for they have a lea body, terminating in a tail, like the former; instead of being enclosed in large shields o is covered with small scales, as in the latter. over, they have usually four legs; but in some one pair disappears, and in others they are all c beneath the skin, so that the body presents a s aspect. In this group are found some of the mo and certainly the most beautiful, of the Repti Many of them are tinctured with the most colours, and as they are called into the greates in the bright sunshine, nothing can surpass th dour of their ever-changing hues. These colo an interesting relation to the habits of the ani ing a general resemblance to that of the pla frequent; thus tree-lizards are almost always colours, in which green predominates; ground brown, more or less speckled; and those who stony places are of a greyish hue.

The greater part of the Sauria are carnivorous, feeding upon other animals of inferior size and strength to themselves, and almost always preferring living prey. Many of them pursue nothing but insects; others lie in wait for small birds. The Iguanas, however, feed almost wholly upon vegetables. Many of them are possessed of very great agility upon land; some of them can ascend perpendicular walls, and even run along the ceiling with their backs downwards; none of them are inhabitants of the water, though a few occasionally resort to it. The activity of the smaller insectivorous lizards, when in pursuit of their food, is exceedingly curious and interesting. They watch with all the caution of a cat, and dart upon their prey with the quickness of lightning. Their movements are effected chiefly by means of their feet, and in the higher tribes exclusively so; but in those species in which the legs are short and the feet very small in proportion to the length of the body, progression is greatly assisted by the lateral motion of the trunk, which works its way along somewhat in the manner of that of the serpents.

The order Sauria may be subdivided into five families—1. The LACERTINIDÆ, characterised by the small head and thick neck, but particularly by the very long slender forked tongues of the animals composing it. This group includes the common lizards of this country, and most of the Saurians whose habits are peculiarly active. 2. The IGUANIDÆ, having the same general form, but short thick tongues. This group includes some of the largest of the Sauria, both recent and fossil. 3. The GECKOTIDÆ, which are all nocturnal animals. These have not the attenuated form of the previous families, but are flattened, especially on the head. Their legs are short, and their movements comparatively tardy. Their colour is usually very sombre; and they are reputed, but without foundation, to be venomous. 4. The CHAMELEONIDÆ, whose tongue is of immense length, but obtuse at its point. The feet and tail are both peculiarly adapted for climbing; the former having two of the toes opposable to the rest, and the latter being round and prehensile. Their movements are very slow, except when the tongue is darted out to secure its insect prey. 5. The SCINCOIDÆ, or Serpent-lizards, which are recognised by the shortness of the feet, the non-extensibility of the tongue, and the equality of the tile-like scales which cover the whole body and tail.

1. The LACERTINIDÆ are the most agile, most innocent, and most beautiful of the Saurians. Though they share, in common with the others, the dislike in which the animals of the class of reptiles are held by most persons, they never injure man, and are in some cases of considerable service to him. The larger ones live on the ground, usually preferring the shelter of underwood or of stones, and some frequenting marshy situations; whilst the smaller kinds resort to trees in search of their insect food, and, in the liveliness of their colours and the rapidity of their motions, bear no inconsiderable resemblance to birds. Two small species inhabit this country—the *lacerta agilis*, or sand-lizard, a beautiful little animal, which is sometimes of a brown but sometimes of a greenish hue; it is found on sandy heaths, and occasionally seen basking on the sunny faces of green banks. A more common one, however, is the *lacerta vivipara*, which inhabits most districts of England, and even extends into Scotland; it is also one of the few reptiles found in Ireland. It frequents heaths and banks, and may be seen on the watch for its insect prey, during the warm parts of the day, from the early spring until summer has far advanced. Its name is derived from a peculiarity which it shares with the viper—its eggs are retained and hatched within the body, so that the young are produced alive.

Some gigantic fossil bones have been discovered, which seem to be the remains of enormous saurians, allied in structure to the Lacertidæ of the present time. From the proportional length of the head of one of these, which is nearly the sole part preserved, this lizard must have been at least seventy feet from head to tail.

2. The family of IGUANIDÆ approaches pretty closely to the true lizards in many of its general characters; but it contains several most extraordinary forms, widely differing from each other. The true iguanas are confined to America; but some genera of this order are found over the greater part of the tropical zone.

Among these may be noticed the genus *Draco*, the animals included in which are distinguished at the first glance from all other saurians, by the possession of a pair of wing-like appendages to the sides of the body. These are formed by extensions of the skin, supported by the false ribs, which are greatly prolonged. They can be folded up or extended at the will of the animal, but they cannot be made to strike the air and to elevate the animal like a bird or bat. They serve rather as a kind of parachute, on which this little dragon, not many inches long, flutters from branch to branch in search of its insect prey; and also as a support to it when shooting, like the flying-squirrel, from tree to tree. These animals, the only living representatives of the fabulous dragons of the olden time, are found in the woods of tropical Africa and Asia, especially in the Indian archipelago.

This is perhaps the proper place to notice the very extraordinary fossil, to which the name *pterodactylus* has been given. In its general character it was certainly a lizard; but it seems to have been adapted to raise itself and fly in the air, like a bat or bird. The membrane of the wing was not extended, however, over the whole bony apparatus of the limb, but only one finger, which was enormously developed to support it. It is ranked by Cuvier among the most extraordinary of all the extinct animals that had come under his consideration; and the one which, if we saw them all restored to life, would appear most strange, and most unlike to any thing that exists in the present world. In the form of its head and the length of its neck, it resembled birds; but it had the bones and teeth of a lizard; its wings approached those of bats in form and proportion; and its body and tail resembled those of ordinary Mammalia.

In general external form, the pterodactyles probably most resembled a vampire bat; but in most of the species, the snout was elongated like that of a crocodile, and armed with conical teeth. Their eyes were of enormous size, apparently enabling them to fly by night. From their wings projected fingers, terminated by long hooks, like the curved claw on the thumb of the bat. These must have formed powerful members, with which the animals were enabled to climb, or creep, or suspend themselves from trees. With regard to their food, it has been conjectured that they preyed upon insects; and the number of fossil remains of insects in the strata in which they are found, proves that such a source of aliment was within their reach. The head and teeth of two species, however, are so much larger than would be required for the capture of insects, that they may have possibly fed on fishes (as there were at that epoch few or no small land animals), darting upon them from the air after the manner of many sea-birds.

From this account of the pterodactylus, it is evident that it is a most remarkable connecting link between the classes of birds and reptiles. That it is to be associated with the latter can scarcely be questioned; but if, as has been recently stated, the covering of the skin was more analogous to hairs or feathers than to scales, its affinity to birds must have been extremely strong.

The true Iguanas are confined to the New World, and frequently attain considerable size. They have a kind of spine or crest along the back, and a hanging pouch under the throat, which seems analogous to the dewlap of oxen; this pouch can be inflated, but under what circumstances is not exactly known. They have also in some degree that power of changing the hue of the skin, which is so remarkable in the chameleon. They are very agile, the legs being long in proportion to the body, and their food is almost exclusively vegetable. Some of them attain the length of five or six feet, of which the tail constitutes a large proportion. Their flesh is much esteemed as food; and, in the countries

where they abound, they are sought for with this object. They are extremely tenacious of life. When attacked, they assume a formidable, though not a dangerous, aspect. They open their mouths, vibrate their tongues with rapid motion, inflate their throats, and erect their crests, while their eyes glance with great brilliancy. All this, however, is a demonstration for defence and not for attack. They are never known to combat with any animals but those of very small size.

Some gigantic fossil remains, allied in conformation to the Iguana, indicate the former existence of animals of similar character, which attained enormous bulk. The chief of these was the *iguanodon*, of whose bones fragments have been found in Tilgate Forest. The teeth are so precisely similar to those of the iguana in the principles of their construction, as to leave no doubt of the near connexion of this gigantic saurian, which must have probably attained a length of at least seventy feet, with the herbivorous lizards of our own time. The examination of these teeth discloses some remarkable mechanical contrivances, adapting them to the function of cropping tough vegetable food, such as that afforded by the plants found imbedded with it.

The third family, the Geckotidæ, consists of a large number of animals bearing a strong resemblance to each other in general characters. They are all nocturnal, and pass the day in obscure places; their eyes are large, and their pupil contracts under the influence of light, like that of cats, into a very small aperture. Their flattened form and broad head give to them a very striking and peculiarly disagreeable appearance, which is aided by their sombre and somewhat toad-like hue; hence, although timid and harmless, they are always regarded by the vulgar as having a venomous character, but without the least foundation in truth. Most of them possess claws at the extremities of the toes, and these are capable of being retracted like those of the Felinæ. They appear more useful to their possessor in climbing, however, than in securing their prey, which consists principally of insects. The Geckos are found in most warm countries in both hemispheres. They frequent buildings; and some species have a peculiar organisation of the feet, by which they can climb smooth perpendicular walls, or even run beneath ceilings. They are often useful in clearing houses of musquitoes and spiders; but it is said that articles of food over which they have passed acquire poisonous properties, in consequence of an acrid exudation from the feet. It is difficult to know how much credit to give to such statements; equally positive ones, which are entirely destitute of foundation in fact, being circulated in this country in regard to the toad.

The Chameleonidæ, or *Chameleon* tribe, are few in number; but they present so many anomalies of organisation, that it is necessary to separate them from all the other saurians, and to rank them as a distinct family. They are characterised, in the first place by the structure of the feet, which are adapted for climbing, like those of the scansorial birds (such as the parrot), having two of the toes opposed to the other three. The *tongue* also affords a remarkable character; it is fleshy, *and capable of enormous* elongation; the extremity is *thickened or club-shaped*, and is furnished with a viscous secretion at its extremity. It is by this c the chameleon entraps its insect food; for, by darting out the tongue, the insect is glued, a to the end, and instantaneously conveyed to t This is the only part of the body that move the limbs are often quite motionless for hour the chameleon walks, it advances with the gr cumspection, and there seems a want of pow bine the actions of the different members. once attached to a branch or twig by the gras feet, its seems to have little disposition to qui

Chameleon.

The peculiar conformation of the eyes of th leon adds much to the general singularity of i They are large and prominent, but so much co the scaly skin of the orbits, that there only small hole in the middle opposite the pupil. uncommon thing to see the animal directing it two different ways at once; one eye looking f for example, the other backwards, sideways, or This power must be very useful in compens the fixity of the body itself, so as to give inform the proximity of food in any direction. The p abstinence possessed by this singular race great, and hence most probably arose the fable living on air. They do not appear inclined to t in confinement; and have yet been seen to sh little during many weeks of almost entire abst

The chameleon has been most remarkable, for its power of changing colour, which was k the ancients, and is commonly supposed to be to it; but, as already stated, other animals pos a greater or less degree. Much exaggeration vailed, as might be expected, in the description phenomenon. All the colours of the rainbow, as white and black, have been represented to sumed by it. Its natural hue, when at rest an shade, seems to be a bluish grey; from this i changes to a brownish grey or into a green. times the colour fades to a pale grey, and som it deepens to a dark brown; but these are the ex The phenomenon has been variously accounted late, it has been generally supposed that the hu skin depends upon the degree in which the co the blood is combined with that peculiar to th brane; and that it is altered by a change in th tity of blood sent to the surface, which is incre the distension of the lungs occasionally practised animal. But the recent inquiries of Milne-E have shown that this is only a partial cause; a the change is principally owing to an alteratio relative position of two layer of colouring matte the skin contains, so that they may be displaye or in various degrees of combination.

The last family of the Saurian Reptiles—S coidæ, or *Skink* tribe, conducts us so gradually the Serpents, that it is difficult to know where the line of demarcation between them. They cognised by the shortness of the feet, the rou the body, and the equality of the tile-like sc the whole surface; their tongue is not capab tension. They have all more or less of a s form; and in some of them only two feet are d The true *scincus* probably approaches to the saurian type more closely than the rest of th It is furnished with four short but strong feet, with considerable agility. The *seps* has a more like body than the skink, and the feet are sm wider apart. These gradually become simpler ture in various species; the number of toes duced, until the feet seem like simple hooks from the body. The *chalcis* is another snak small-legged saurian, which, in some peculiar conformation, approaches a different group of In the *bipes*, the anterior pair of feet is not d and in the *chirotes*, the posterior pair is wan both these, the general conformation of the the habits, so far as known, correspond with the common blind-worm, which is ranked a Ophidia.

Order V.—Ophidia.

imals composing this order are at once dis-
l, not only from all other Reptiles, but from
Vertebrata (except certain fishes of the *eel*
the entire absence of members or appendages
otion. Although no trace of these is ever
le externally, there are some species border-
the saurians, in which rudimentary legs can
d; and these approximate, therefore, towards
s in their own tribe, just as the two-legged
d lizards approach the serpents in theirs.
apparently so different from other reptiles,
are to be distinguished from lizards by little
bsence of extremities; since, in the possession
and in the scaly covering of their bodies, as
their general interior organisation, they closely
d with them. The elongated form of their
minds us of the Worm tribe among the Arti-
hich they may be regarded as representing
e Vertebrata, just as the class of birds repre-
of insects; and they correspond with them
r very curious particular—the periodical exu-
f their skin. All serpents pass the coldest
he year in a state of torpidity; and it is on
from this that they slough or cast their skin.
st detached round the head, and is gradually
ff by the animal, being turned inside out like
of a glove.
ogression of serpents on the surface of the
complished in two ways; sometimes the whole
ps along the ground, the scales on its under
ng (like the minute bristles of the earth-worm)
y points of resistance to a backward movement,
trunk is elongated, after being contracted;
times it is bent upwards into a series of arches,
the tail is brought near the head; and when
straightened, the head is thereby projected
In crawling along the ground, they are much
y the points of the ribs, which do not meet
sternum, but bear upon the ground, and serve
y short feet, having a certain power of move-
hemselves by means of the intercostal muscles.
pents can swim when placed in the water; and
ne group which is pre-eminently aquatic, and
uished by its vertically-flattened tail. So
the members of this group resemble certain
f the eel tribe, that it is not always easy to
e to which a specimen belongs, until its respi-
gans have been examined. The great flexi-
the body is partly due to the very large num-
rtebræ (from 200 to 300) composing the spinal
each of which is united to those before and
by a very beautiful ball-and-socket joint. A
up of serpents is distinguished by the pos-
f venomous teeth, or *poison fangs*, in addition
rdinary teeth. These are sharp, long, and
they are connected at their roots with a gland
the poison is secreted; and this is instilled
wound through the tube in the tooth.
the case of other reptiles, we find that serpents
in their full development in warm climates,
ery little proper heat of their own. The
habiting the temperate zone are not nearly so
ble, either for size, brilliancy of colour, or
s properties, as those which exist between the
The order may be divided into five families.
OLUBERIDÆ, consisting of the *Boas*, *Pythons*,
, and other non-venomous snakes not belonging
bsequent orders. 2. The CROTALIDÆ, contain-
attlesnake, *Viper*, and all the venomous species.
YDROPHIDÆ, or *Water-snakes*. 4. The AMPHIS-
or *Double-walkers*. 5. The ANGUINIDÆ, or
ms. These last approximate the Lizards, in
ssion of rudimentary legs under the skin, as
n other points of their organisation.
OLUBRIDÆ are particularly distinguished by
r of dilating the opening of the jaws to an
s extent, so as to permit of animals being
swallowed which are much larger than the diameter of the serpent itself. This is accomplished by the separation of the jaw-bones into various pieces, which are very moveable on one another and on the skull. The most remarkable species of this family, which is the most numerous of the order, are the *Boa Constrictors** of the New World and the *Pythons* of the Old; these, when full grown, attain the length of from thirty to

Boa Constrictor.

forty feet, and in thickness nearly equal a man's body. They do not fear to attack any animal; and, if they can once coil themselves round it, crush it by the enormous combined power of their muscles, in spite of all its means of resistance and defence. Their power is much increased by coiling the tail round a tree, so as to give a point of support from which the muscles may act more efficiently; and it is in this manner that they commonly wait for their prey. When they have seized and entirely destroyed it by crushing, in which process all the principal bones are broken, they begin to swallow it. This process lasts some time; and when it is complete, the position of the mass in the alimentary tube is at once known by the external protuberance. The process of digestion takes some days or even weeks for its performance, according to the size of the prey; and during that time the monster lies in a very inactive state, only issuing forth to seek a new victim when the digestion of the last has been for some time finished. The hair, horns, and other least digestible parts, are usually disgorged during the process. The Boas are distinguished from other serpents by the presence of two projecting bones near the vent, which are called *claspers*, and which may be regarded as the rudiments of posterior extremities.

The *Colubers*, strictly so called, are usually of comparatively small size; but their habits are the same in proportion. The common snake of this country attacks small quadrupeds, frogs, birds, &c., in precisely the same manner that the boa seizes its larger victims. It is fond of marshy situations, and takes to the water readily, inflating its lungs so as to render itself buoyant. The flexibility of body, which is their means of obtaining support, is greater in the non-venomous serpents than in the Crotalidæ, which have another mode of procuring it. This is shown by suspending a coluber by its tail; it can bend its body so as to bring its head to the point at which it is held; this the venomous serpents cannot do. All the smaller species of this family are perfectly harmless to man, and may be handled without fear. Many of them are remarkable for the brilliancy of their colours, and others for the extreme regularity of their markings.

* The name *Boa Constrictor* is commonly applied to the immense serpents of the East Indies; but only those of the western hemisphere possess the characters which the naturalist now assigns to the genus Boa.

The CROTALIDÆ, or *Venomous Serpents*, do not differ much in external characters from the preceding family; but the character of their teeth is quite sufficient to distinguish them. The poisonous properties of the different species vary considerably; in general they are more severe in the serpents of warm climates than in those of temperate regions. Cases of death from the bite of the British viper are very rare, and are generally to be attributed in part to some previously existing derangement of the system. There are many serpents in the torrid zone, however, whose bite is fatal to man and other large animals in a few hours, and to small animals much sooner.

This family contains two principal series—the *Rattlesnakes* and the *Vipers*. The former are generally regarded, but probably incorrectly, as the most venomous of all serpents. The rattle at the end of the tail, which is their distinguishing characteristic, is formed of several separate pieces of a dry horny substance, one of which is received within another. They are quite loose, and receive no nourishment after they are once formed. A new piece is said to be added every time the skin is cast, which usually takes place twice a-year. The sound made by the rattle is not great in the ordinary motion of the serpent, and cannot be heard at more than two or three yards' distance. Several species of *Crotalus* are described, varying in length from four to eight feet. They are all natives of America. Their ordinary food consists of birds, squirrels, and other small animals. It was once supposed that they possessed the power of charming or fascinating these animals, so as to draw them by degrees to enter their throats. This is certainly an error; but it is equally certain that most animals are so terrified at the sight of the rattlesnake, as to lose the power of escape, and to become an easy prey when it darts upon them.

The *Vipers*, being destitute of the peculiar characteristic of the Rattlesnakes, are more like the Coluberidæ; their forms, however, are less elegant, their colours less splendid, and their movements less active. In general, they are remarkable for the dark lurid tints of their covering. The most celebrated species of this group is the *cobra di capello* or *spectacle-snake* of the East Indies. Its first name, given to it by the Portuguese, signifies hooded snake, and is derived from the power of dilating the skin behind the head, when irritated, so as to give the appearance of a hood or cowl. The common English appellation is bestowed in consequence of a mark, in the shape of a pair of spectacles, behind its head. This is one of the most deadly serpents of the East. An equally, if not still more, venomous snake, however, exists in some of the West Indian islands. The bite of the venomous serpents varies in its consequences according to the state of health of the bitten subject, the depth and number of the wounds, the time which has elapsed since the animal last made use of its fangs, and consequently the amount of poison which has penetrated into the system.

The HYDROPHIDÆ, or *Water-Serpents*, are comparatively few, and are limited in their geographical range. They are mostly found in the seas and rivers of the East Indies, and in some localities they are by no means uncommon. They are chiefly known by the very decided vertical compression of the tail and hinder part of the body, which may thus be compared to the tails of fishes; hence they swim with considerable facility, occasionally coming to the surface to respire. They possess poison-fangs, and are more dangerous than crocodiles or sharks to persons entering the water where they abound. One species exists in the rivers and canals of India, and attacks animals which come to bathe or drink, as well as devotees whilst performing their ablutions; others are confined to the sea, where they feed upon fish. It is stated that they will occasionally make their way into boats. Their colours are generally bright.

The AMPHISBÆNIDÆ, or *Double-Walkers*, are a still *smaller group*, intermediate in some respects between *the true serpents* and the slow-worms. They derive their name from the power of moving either back or forwards with equal facility. The two extr of the body are so much alike, that they would distinguished by a superficial observer, the eye so very small as sometimes to appear wanti whole body is of nearly equal diameter. This g restricted to the warmest parts of South Am Notwithstanding the common idea of its venomo perties, it is quite harmless, and subsists on w other small insects. It has not the power of s ing the bones of the jaws, which distinguishes th serpents.

The ANGUINIDÆ may almost be called either or serpents, so remarkably do they combine th racters of the two orders. In one species the ments of hind legs form a visible projection ne vent; and in another the anterior ribs are con by a cartilage which is the rudiment of a sternum common *slow-worm* or *blind-worm* of this count received its second name from the supposed abs eyes; this is an absurd error, however, as the though small, are very brilliant. It is a pe harmless animal, feeding on insects, slugs, &c. said to swallow frogs, birds, and mice; but this possible, as the bones of its jaw do not separate middle, and its swallow is consequently small a dilatable. When alarmed, it throws the whole muscles into contraction in a peculiar manner, then very brittle, so that it frequently loses its t various accidents; in the course of a year, how this member is replaced. There is a larger spe this family existing in America, which attains the of two feet, and from its extreme fragility is call *glass-serpent*.

The Serpents are connected with the Amphi the curious genus *Cæcilia*, or naked serpent, whic be described as a member of that class.

CLASS IV.—AMPHIBIA.

The animals composing the class Amphibia we cluded by Cuvier and many other zoologists unde general designation of Reptiles. There seems, how sufficient reason for separating them into a di group of equal rank. They may be regarded as inte diate in their structure, and in their habits and m life, as well as in many of their forms, between F and true Reptiles; and they bear a still more remar relation to these classes, in that change which ma them undergo at a certain period of life, by which become transformed from the nature and habits o former to those of the latter class, by a metamorp analogous to that of insects.

The class we are now considering offers us the instances of animals possessing two sets of respir organs, one adapted to breathe air and the oth aerate the blood by exposing it to water. In m the species composing it, lungs and gills do not ex the same time, at least in a state of activity; the gradually disappearing as the former are deve But in a few species the gills are retained durin whole of life, even after the lungs are capable of ing the blood. These are, then, the only true a bious animals; but the term AMPHIBIA may be properly applied to all such as undergo this ki metamorphosis, breathing by gills alone at the mencement of life, and afterwards acquiring lun which air can be respired.

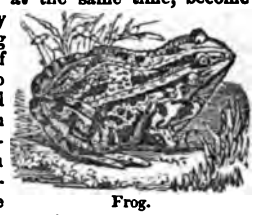
The general peculiarities of the Amphibia m thus stated:—Like fishes and reptiles, between they are intermediate, they are oviparous and blooded, but their skin is soft and naked, being de of scales or plates. Most of them undergo a met phosis which has reference to a change of con from the form of a water-breathing fish to a breathing reptile; and, when they have attained perfect condition, they closely resemble true r in general character. In many species, however

age is seen from the time that the animal emerges
m the egg to its adult age. With the exception of
frogs, they have much the form of lizards (among
ich several of them were formerly classed), and have
erally four feet and a lengthened tail.
The class, which contains but a small number of dif-
nt genera, may be best subdivided into orders chiefly
rding to the degree to which the metamorphosis
ceeds. Thus, in the first, ANOURA, embracing the
gs and *Toads*, the gills are entirely lost in the per-
t state, and the tail also disappears. In the URODELA,
luding the *Salamanders*, *Water-Newts*, &c., the gills
appear in the perfect state, but the tail is retained.
e AMPHIPNEURTA, to which the *Proteus* and *Siren* be-
g, retain their gills during the whole of life; the tail
ntinues to form a large part of the body, and in some
stances only two legs are developed. In the ABRAN-
A, an order which consists only of two little-known
era, no gills have been found at any period of life,
the body and tail are evidently formed for swim-
g. And in the APODA, including only one genus,
Cæcilia, the body is altogether destitute of feet, and
a serpent-like form.

Order I.—Anoura.

he principal subdivisions of the first order are the
IDÆ, or *Frog* tribe, and the BUFOIDÆ, or *Toad* tribe.
former frequent water, and are adapted for swim-
g in it; the latter are usually found at a distance
m water, and are much less adapted for active move-
nt of any kind. The metamorphosis of both these
ended with the same general phenomena; and as
animals themselves are so well known, a description
his process will be a sufficient account of those which
abit Britain. It is one very easily observed, for, by
aining a little water containing young tadpoles, the
e process may be made to go on under our eyes,
the young naturalist is earnestly recommended to
ch it for himself.
he spawn, soon after its deposition in pools, consists
a transparent gelatinous mass, enveloping a num-
of little black dots, which are regularly distributed
ough it, and which are the eggs. Those are abun-
tly found in stagnant pools in the month of April,
g usually deposited (in this country) at the end of
rch, and hatched about a month afterwards. When
tadpole first emerges, it is seen to present, in every
pect, the appearance of a fish. It has a large oval
d, and an elongated tail, flattened vertically, by the
rations of which it swims actively through the water.
gills are found hanging in tufts on each side of the
d; and, if examined with a microscope, the motion
the blood through them may be very beautifully seen.
circulation may be observed, also, with great faci-
y in the fin-like expansion on the upper and under
ge of the tail. Very soon, however, the gills are with-
wn, as it were, into the head, being covered over
a fold of skin, analogous to the operculum, or gill-
er of fishes. The little creature, which at first seemed
derive its subsistence from the fluid absorbed within
body and on its surface, now seeks its food amidst
tened or decomposing vegetable matter; and, to give
ater power of movement, the surface of the tail is
siderably increased.
The tadpole now undergoes but little change in its
ternal form for a considerable time, but increases
pidly in bulk. The first appearance of limbs is seen
a little tubercle or knob which projects at the back
the head: this is the rudiment of the hind leg. It
on acquires somewhat the form of the perfect limb,
e toes budding, as it were, at the extremity; but it
ll continues very short, even in proportion to the
minutive size of the animal. Meanwhile, the fore legs
e also budding out in the same manner, and gradually
ume their distinct and ultimate form. During this
ocess, the development of the body goes on at the ex-
se of the tail, which is gradually removed by absorp-
n, so that the hinder part of the body becomes rounded.
e gills disappear by a similar process.

The little animal has now undergone its complete development, and having, at the same time, become capable of respiring air by true lungs, and of moving freely on land by means of its hinder legs, it comes to the shore to feed on small insects and worms, which are henceforward to constitute its nutriment. Such multitudes of these newly-perfected little beings are often found in damp weather enjoying their new scene of existence, as to have given rise to many stories of showers of frogs having descended from the sky, which are still believed in some parts of the country. They now grow with great rapidity during the remainder of the year; but on the approach of winter they retire to the mud at the bottom of the water, where they congregate in large masses, remaining torpid until the return of spring.


Frog.

The BUFOIDÆ, or *Toads*, are a perfectly harmless and inoffensive race, although certainly not inviting in their general aspect. The idea of their venomous character is altogether unfounded. The body is of a dull hue, its shape awkward, and its movements appear difficult, but it is by no means deserving of that disgust which it has inspired in some naturalists as well as in the popular mind. Unpossessed of any power of active defence, or of rapid escape from its enemies, the dullness of its colour serves to shield it from observation. Its eye bears a remarkable expression of mildness and patient endurance, rather fitted to excite pity and compassion than disgust or repugnance. It issues forth from its concealment at twilight in search of food; and this consists of insects, worms, slugs, &c., the inordinate increase of which it is very useful in repressing. It seems to prefer that which is actually alive and in motion. When about to feed, it remains motionless, with its eyes turned directly forwards upon the object, and the head inclined towards it; and in this attitude it remains until the animal moves, when, by a stroke like lightning, the tongue is thrown forward upon the victim, which is instantly drawn into the mouth. So rapid is this movement, that it requires some little practice, as well as close observation, to distinguish the different motions of the tongue. This organ is folded back upon itself, as in the frog; and the under surface of the tip is imbued with a viscid mucous secretion, which adheres to the prey. This is generally swallowed alive; and its motion within the stomach may often be perceived for some time afterwards.

The toad, like the rest of the Amphibia, becomes torpid in winter; but, instead of returning to the water, like the frog, it chooses for its retreat some retired and sheltered hole, or a space amongst large stones. Like the other Amphibia, too, it is endowed with great tenacity of life, and can exist for a very long time deprived of food and almost of air. The knowledge of this fact has occasioned a disposition to give too ready credence to the various wonderful accounts which have been circulated, at different times, of toads being found alive, completely enclosed in solid rock or in the heart of trees. It is not at all unlikely that a toad which has retired to a hollow in a tree in the autumn, may find itself so far enclosed in the spring as to be unable to escape; and that, through the opening, it may obtain the requisite supply of air, and even of food. In process of time new wood may be deposited around it, so that the cavity shall be completely moulded upon its body; and the opening will be gradually diminished. Still, a very small aperture will be sufficient to admit air, moisture, and minute insects, by which it may be supported for many years, being a long-lived animal; and in none of the cases on record does there seem to have been such a minute examination of the cavity as to disprove the idea that a connexion with the external air still existed. In a similar manner it is fair to explain most of the accounts of toads found in stones, &c.

Order II.—Urodela.

The animals of the order Urodela bear so strong a general resemblance to lizards, that they were united with that group by Linnæus, and are still popularly regarded as such. The *Salamanders* and their allies, however, are easily distinguished by the smoothness and softness of their skin, which is entirely destitute of those scales which all lizards possess. Moreover, they undergo a metamorphosis similar to that of the frogs, except that the change of form does not proceed to the same extent. Like the Anoura, this order may be subdivided into two families, of which one, that of the TRITONS, is of aquatic habits even in the adult state, like the frogs; whilst the other, that of the true SALAMANDERS, bears more analogy with the toads in its aspect and habits.

Of the TRITONS several species exist in this country, and are known under the names of *Evat*, *Eft*, *Newt*, &c. The largest is about six inches in length: it is not at all uncommon in ponds and large ditches, where it lives upon aquatic insects and other small living animals: it even devours the smaller species of newt. The eggs are laid in the spring, upon aquatic leaves, which are folded together by the animal; and the young tadpole, when it comes forth, bears considerable resemblance to that of the frog. The gills, however, are in larger tufts, and they afford a most advantageous opportunity for observing the circulation. The anterior legs are the first developed; and even after they have arrived at nearly their full growth, the gills are very large, and actively performing their functions. The lungs are, however, gradually developed; and, towards the end of autumn, the gills are absorbed, and the animal breathes air only. Still it does not quit the water, but remains an inhabitant of that element, coming occasionally to the surface to breathe.

The *Salamander* is a land animal, of the same general character with the water-newt, but possessing a rounded instead of a flattened tail, and a surface somewhat warty, like that of the toad. It discharges, when alarmed, an acrid secretion from the tubercles in the skin, which is said to be poisonous to small animals. In other respects it is quite harmless, and is not possessed of any remarkable properties. The eggs of the salamander are hatched within the body, so that the young are produced alive, and the progress of the metamorphosis has been considerable before it sees the light. Nevertheless, it at first inhabits the water, and, when it has finally quitted it, frequents damp in preference to dry situations. No species exists in Britain, but the salamanders are pretty extensively diffused over other parts of the globe.

Order III.—Amphipneurta.

The animals belonging to the order Amphipneurta exactly resemble salamanders the development of which has been checked just at the period of their transformation from aquatic to air-breathing animals. They retain their gills during their whole life, and acquire lungs in addition by the partial metamorphosis they undergo. The legs bear but a very small proportion in their degree of development to the tail; and in some instances only one pair is formed. The first-discovered animal of this order was the *proteus*, an inhabitant of the underground lakes of Carniola and Styria, and of the passages between them. So strongly does this resemble the larva of a salamander, that it was at first believed by naturalists to be such; and it was only after the discovery of others of the same character, that its true nature was understood. Unlike most other animals, it appears to suffer injuriously from light; for not only does it prefer dark places, but even dies if it be exposed to open day for any length of time without the power of hiding itself. The *siren* is an animal of similar character, inhabiting the North American rivers, where it feeds upon earth-worms, aquatic insects, &c., in search of which it burrows in the mud. Only the anterior pair of feet is developed, and there is no rudiment of the other. The body has very much the form of that of the eel; and sometimes it attains the length of three feet.

Order IV.—Abranchia.

The order Abranchia contains only two gen these both peculiar to North America, the s and the *amphiuma*. They are not known to any metamorphosis, but breathe by lungs du whole period of life, and have never been seen of legs. These are, however, very short, a almost useless appendages to the body, which like that of an eel. It is not improbable that, salamander, the egg may be hatched within th the parent, and that the young may not co until it has passed through its tadpole state.

Order V.—Apoda.

The order Apoda contains but one genus, th blind-newt, or naked serpent. This was p Cuvier among the Serpents, from the snake-l of the body, which is destitute of any rudimen But, in the absence of scales on the skin, as well anatomical characters, it rather corresponds Amphibia, forming, however, a most interesti tion to the next class. It is not known to un metamorphosis. Its name was conferred by on account of its supposed blindness. The exceedingly small, and are nearly hidden u skin, and it is believed that, in some speci organs are altogether wanting. These animals the rivers and marshy grounds of many tropi tries: further information in regard to them needed. They are said to burrow in the gro to live very much in the manner of earth-wor far as is known, they are perfectly harmless.

From this sketch of the class AMPHIBIA, seen that, in a scientific point of view, it is most interesting in the whole animal kingdom. of little direct benefit to man, it is certainly as as any tribe. And thus, although the forms of the species offend against our notions of bea their love-songs give them the character of "musicians," the aversion and prejudice with wh are ordinarily regarded would be justly replace pleasure of intelligent curiosity.

CLASS V.—FISHES.

The animals of this class are the only Ve which, in their adult state, are formed for r beneath the surface of the water they inhab whale tribe, so much resemble them in aspect and in mode of life, are all air-breathing and they are as certainly drowned by being p from taking in air at the surface, as are an which ordinarily live on land, though, by their conformation, they are enabled to sustain the it for a longer time. The same is true of fro manders, and other reptiles, which pass a larg their time under water. But with fishes, the r the case. In these, as in the Mollusca, the b ceives its necessary purification by being expos air contained in the surrounding fluid. This is its transmission to a series of delicate filament tuting the *gills*, each of which consists of tw blood-vessels (one to convey the blood from t and the other to return it) enclosed in a delic brane, through which the chemical changes the blood and the air take place. But these do not hang loosely in the water, as in the gre of the Mollusca. They are attached to bony laginous arches, which are arranged in pair the head, and are more or less protected by covering; and there is a provision which ensur per change of the fluid in contact with the cavity in which they lie is connected with th mouth, and water is constantly taken in by th ing, and forced by muscular action over the s the branchiæ or gills, passing off through the which are seen behind the head.

The quantity of air contained in water is

al; whilst the position of the other, corresponding with the posterior extremities of land animals, the *ventral*, is extremely variable. Sometimes the ventral fins are placed far back, in the usual situation of hind legs; and sometimes they are fixed far forward, even anteriorly to the pectoral. The pectoral fins are usually connected more intimately with the body than the ventral. These fins are composed of a membrane stretched over a set of bony or cartilaginous rays, which may be regarded as representing the bones of the hand or foot. The bones which connect them with the spine are very short, and are placed under the flesh; so that the chief movement of the fins is, as it were, at the wrist and ankle joints. It is chiefly by their vibrations that the animal is kept depressed in the water, and they also assist in changing its direction from side to side. The formation of the ventral fins is chiefly noticed in those species whose habits involve a considerable change of their depth in water. Sometimes one, and sometimes both pairs of these fins are absent; in the latter case the fish is said to be *apodal* or footless. In some instances the pectoral fins are enormously developed, like the wings of birds, and even enable the animal to raise out of the water and to skim for a short distance its surface.

The *swimming-bladder* is an organ usually supposed peculiar to this class. In the highest forms in which it exists, however, its correspondence with the lungs of air-breathing animals is very evident; and there is little doubt that air is taken into it from without for the purpose of respiration. In its lower or more rudimentary condition, however, its office is more doubtful, especially where it is entirely closed. It is usually supposed to contain air, and to serve as a means of regulating the specific gravity of the animal, the swimming-bladder being compressed when the fish desires to sink, and allowed to expand when it desires to rise. In this manner it would seem that gold-fishes are enabled to rise and descend in the water, without any muscular effort visible to those who watch them. But it is remarkable that this organ is sometimes absent in a species closely allied to one in which it is present; and that the presence of it does not seem to make any difference in the habits. As a general rule, it is more constantly present in river fishes than in the inhabitants of the sea; it is most frequently absent in those which usually swim near the bottom of the water.

The surface of the body is generally covered with horny scales, which vary considerably in form and size in different species. Each scale is composed of several plates, of which every one extends on all sides beyond the one on its exterior; hence the appearance of numerous concentric lines on all sides, which mark the stages of growth, the larger plates being the latest formed. They thus resemble the shells of molluscs in the mode of increase. Each scale is attached to the skin of the fish by its anterior edge, which is covered by the scale in front of it, whilst its posterior edge overlaps the scales behind it. This arrangement is not universal, however; for the scaly covering is sometimes formed of a series of bony or even enamel plates, united together by their entire edges. Such an arrangement was very common in the fishes existing at the time of the coal formation, but is now much more rare.

When we consider that more than two-thirds of the earth's surface is covered with water, often to a very great depth, and that, as far as is known, the whole of this element is habitable by fishes (each stratum having some particular species formed to exist in it), little doubt can be entertained that they form the most numerous class of vertebrated animals. Their numbers are kept up by their extreme fertility. The cod-fish has been ascertained to lay not much fewer than four millions of eggs at a single deposit; and in other species the number may even be greater. Their voracity is

also extreme. Almost all of them are adapted to devour and digest animal food, some of them living chiefly on crustacea, mollusca, and other invertebrate inhabitants of the ocean; and others having it for their especial function to keep down the inordinate multiplication of their own kind. Some of these attain a considerable size. The pike has been found nineteen feet long; and there is evidence of one having lived for 267 years. The sun-fish has reached the length of twenty-five feet; and some rays and sharks have exceeded forty feet.

The classification of Fishes proposed by Cuvier is probably the best that, in the present state of our knowledge of this group, can be adopted. It is obvious that, from the peculiarities of the habitation of these animals, and the very imperfect manner in which the depths of the ocean, over a large part of the earth's surface, have yet been explored, a great number of existing species probably yet remain to be discovered. And it is also certain that the number of species formerly existing in the waters, and of which we have at present but very scanty remains, was considerable, and that their forms often differed widely from those familiar to us. Hence, when these shall have been more completely investigated, it is not improbable that this classification must be greatly modified in order to include them.

The primary division of the class is into the *Osseous* and *Cartilaginous* Fishes, the former having a hard bony skeleton, and the latter having one of less firm consistence, possessing but little calcareous matter. The former group is divided into six orders, which are principally characterised by the structure and arrangement of the fin rays. These are distinguished as either consisting of a single piece—in which case, whether stiff or flexible, they are said to be *spinous*—or as consisting of a number of jointed pieces, divided at their extremities, when they are called *soft* or *articulated*.

1. Acanthopterygii, or *spiny-finned*. In this order, which contains the greatest number of ordinary fishes, there are spinous rays in the first or anterior part of the dorsal fin, and sometimes these have no connecting membrane. The anal fin has also its first rays spinous, and there is generally one such ray in the ventral.

The three next orders are all *soft* or *jointed-finned*, and come, therefore, under the general designation Malacopterygii. They are distinguished from each other by the position or absence of the ventral fins.

2. Malacopterygii Abdominales. In these, the ventral fins are attached to the abdomen behind the pectorals. They are a very numerous order, and include the greater part of the fresh-water fishes.

3. Malacopterygii Sub-Brachiati. In this order the ventral fins are brought forwards under the pectorals, and the fish, which are chiefly marine, enjoy a considerable power of ascending and descending in the water.

4. Malacopterygii Apoda. These are fishes in which the ventral fins are always wanting, as are not unfrequently the pectoral also.

The two remaining orders of Osseous Fishes are separated from the rest by other peculiarities.

5. Lophobranchii (Tuft-Gilled). In these, the gills, instead of hanging in regular fringes, like the teeth of a comb, from the branchial arches, are disposed in tufts, and the gill-covers open less freely than in the preceding orders.

6. Plectognathi. The members of this order, though retaining many of the characters of the Osseous Fishes, exhibit an evident transition to the Cartilaginous, both in the less complete ossification of the skeleton, and by the union of the bones of the upper jaw to each other and to the head. The opening of the gill-covers is still smaller than in the last order.

The *Chondropterygii*, or Cartilaginous Fishes, cannot be considered either superior or inferior to the others, *but form, as it were*, a parallel series with them. Some *tribes exhibit the lowest* organisation which exists in *the class, whilst others present* many points of affinity *to Reptiles. The* different parts of the skeleton, which, *in the Osseous Fishes*, are united by distinct joints, here frequently form one continuous piece. This ... remarkable in the head, which is composed of a ... piece, in which, however, the principal parts for... the bony fishes may be distinguished by various ... furrows, and holes. This group contains three ... distinguished from each other by the conformati... the mouth and the arrangement of the gills.

7. Chondropterygii Branchiis Liberis (Free-G... Cartilaginous Fishes). In these, consisting chi... the Sturgeons, the gills hang freely, and are co... with a gill-lid having a single wide opening, as i... seous Fishes.

In the other two, the gills are attached at the ... edge, and there is a separate opening for the ... the water that passes over each arch. These, ... are termed Chondropterygii Branchiis Fixis, or ... Gilled Cartilaginous Fishes, are distinguished from ... other by the conformation of the mouth.

8. Selacii, or *Sharks* and *Rays*. Here the jaw ... not united into a ring.

9. Cyclostomi (Round-Mouthed). These have a ... fleshy lip, by which they adhere to their prey, ... ing their food by suction, and this is supported ... cartilaginous ring, formed by the union of the ... bones. It is in the fishes of this order that we fi... vertebrated structure in its lowest form.

DIVISION I.—OSSEOUS FISHES.

Order I.—Acanthopterygii.

The Spiny-finned Fishes are divided by Cuvier ... fifteen families, the most important of which w... be noticed.

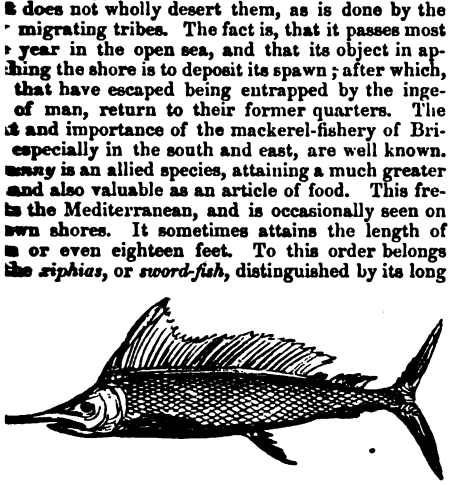
Percidæ, the *Perch* tribe. These are very ... rous in the waters of all warm climates, some ... inhabiting the rivers, and others the open sea. ... bodies are oblong, and covered with hard or ... scales; and the gill-covers are toothed at the m... They are mostly *thoracic*, or have the ventral fins ... the pectoral. Some, however, are *jugular*; th... have the ventral fens placed upon the throat, f... forwards than the pectorals; and some are abdo... Their teeth are very minute, and set close toget... numerous rows. Their flesh is in general agr... and wholesome. This family includes all the fish k... as Perches, of which some species are found in a... all the rivers in the world, and a large numb... marine fishes used as food on different shores.

Triglidæ, the *Gurnard* tribe. These bear a ... ral resemblance to the Perches; but have the ... peculiarly armed with spines or hard scaly plates. ... several species the pectoral fins are very much exte... but in none except the flying-fish are they suffici... powerful to raise the animal out of the water. Many ... cies of this tribe are found in the temperate seas. ... most interesting of all is the *dactylopterus*, or *flying* ... This has a kind of supplementary pectoral fin on ... side, formed of a membrane stretched over finger... processes, which in the gurnards are unconnected. ... the impulse of these on the surface of the water ... flying-fish can raise themselves to the height of s... feet into the air, and can suspend themselves abo... surface for a few seconds, often skimming lightly ... it for a considerable distance; but they cannot s... themselves in the atmosphere for any length of ... They are gregarious fish; and it is when a sh... them is chased by the *coryphæna* (commonly but ... neously termed *dolphin*) or some similar enemy ... the most remarkable leaps are taken. They not ... quently fall upon the deck of a large vessel tha... be passing amongst them. The finger-like pro... are usually prolonged beyond the fins, and app... possess an amount of sensibility unusual in such ...

The family Squamipennes is so named becau... soft and even the spinous parts of their dors... are so covered with scales as not to be distin... from the rest of their bodies. The most inte... genus is the Chætodon, of which several spec... markable for the beauty of their colours, w...

al seas. One of these, the *C. rostratus*, which has y prolonged snout, has the faculty of shooting s with drops of water projected from the mouth, t then seizes them as they fall. This power is the extraordinary, as, according to the laws of the tion of light, the place of the insect will appear fish different from the reality, the rays passing a rarer to a denser medium; and the drop must herefore, be projected in the line in which the *appears* to be, but somewhat below it. This ish, which is a native of India, is often kept in vases by the residents there, as gold-fish are in ountry, for the purpose of affording amusement dexterity.

next family, SCOMBERIDÆ, or the *Mackerel* tribe, of very great importance to man. It com- a large number of genera, a vast collection of s, and numberless individuals. The aspect of the on *mackerel*, with its spindle-shaped, beautifully- ed, smooth, and small-scaled body, is well known. y rapidly dies out of water, and soon becomes d. Mackerel has been supposed to be a migra- ish, on account of its appearing on our shores in ase shoals at particular epochs. But it may be t all the year round on our coasts, which shows does not wholly desert them, as is done by the migrating tribes. The fact is, that it passes most year in the open sea, and that its object in ap- hing the shore is to deposit its spawn; after which, that have escaped being entrapped by the inge- of man, return to their former quarters. The t and importance of the mackerel-fishery of Bri- especially in the south and east, are well known. *nny* is an allied species, attaining a much greater and also valuable as an article of food. This fre- s the Mediterranean, and is occasionally seen on own shores. It sometimes attains the length of or even eighteen feet. To this order belongs he *xiphias*, or *sword-fish*, distinguished by its long



Sword-Fish.

ed beak. This is a most powerful offensive weapon, with it this fish attacks the largest inhabitants of ean. By its high dorsal fin and expanded tail, able to impel itself forwards with great force; and attacking a large animal, it makes a violent dart st it, quite transfixing it with its sword. It has known in this manner to drive its beak into the ers of a ship, and, not being able to withdraw it, eak it off and leave it. The sword-fish abounds e Mediterranean, but is less frequent in the Atlan-

It is very palatable as food; and often attains the h of fifteen feet. The *dory*, of which one species ghly prized by epicures, is another fish of the same ly. It is remarkable for the filamentary prolonga- s from its dorsal fins. And lastly may be mentioned *coryphæna*, commonly known as the *dolphin*. This large and splendidly coloured fish, which darts ugh the water like a radiant meteor, exhibiting an ordinary play of colours when brilliantly illumi- d. It has long been celebrated for its change of ur when dying. It swims with great rapidity, and y voracious, committing great havoc among the g-fish and others of like size. The influence of t on the colour of animals is remarkably shown in far superior brightness of the Indian *Scomberidæ*, n contrasted with the blackish hue of those of hern seas.

he fishes of the family PHARYNGINÆ LABYRINTHI- FORMÆ, are characterised by a very peculiar structure, from which they derive their designation. The membranes of the pharynx (or back of the mouth) are divided into small irregular leaves, containing cells among them, which the fish can at pleasure fill with water; and, by ejecting a portion of this water, it moistens its gills, and may thus continue its respiration out of its proper element. By means of this apparatus, which resembles that possessed by the land-crabs, these fishes are enabled to quit the pool or rivulet which constitutes their usual element, and move to a considerable distance over land. Such a provision is especially desirable in tropical climates, where shallow lakes are often dried up by a continued drought, and their inhabitants must perish if not enabled to migrate. The people of India, who often witness the appearance of these fishes where they were known not to exist, believe that they fall from heaven. Some of them are able not only to traverse plane grounds, but can climb steep banks or even trees in the course of their journeys. Of these the most curious is the *anabas*, commonly known as the *climbing-perch* of Tranquebar, which climbs bushes and trees in search of its prey, a species of land-crab, by means of the spines on its back and gill-covers.

The members of the family GOBIODÆ, or *Goby* tribe, are known by the thinness and flexibility of their dorsal spines. Many of them are remarkable for producing their young alive, the eggs being hatched within the body of the parent. This is the case with the *blenny*, of which several species frequent the British shores, living in small troops among the rocks. They are remarkably tenacious of life, being capable of being kept a good many days in moist grass or moss, but they are of little value as articles of food. The true *Gobies* are chiefly remarkable for the *nest* which they construct among the sea-weed for the protection of their young, which was observed by the ancients. They prefer a clayey bottom, in which they excavate canals, and in these they pass the winter.

The next family, PECTORALES PEDUNCULATI, derives its name from the peculiar structure of the pectoral fins, which have a kind of wrist formed by the elongation of the bones to which they are attached. This conformation gives these fishes a very strange appearance, and enables them to leap suddenly up in the water in pursuit of their prey, and even to leap over the mud. In many of them the skeleton is demi-cartilaginous. One of the most curious is the *lophius*, or *fishing-frog*, of the British seas, which is met with chiefly on muddy shores. It derives its name in part from its wide gaping mouth, and in part from the peculiar manner in which it angles for its prey. It has some curious appendages to its head, which terminate in long, round, and rather brilliant filaments, having a resemblance to worms. The animal lurks in the mud, and puts these appendages in vibration; they are mistaken for worms by small fishes, which they attract, and these are gulped down the capacious swallow of the lophius. To such an extent is this voracity carried, that the *angler* (as it is sometimes called) is often an article of value for the live fish which it has in its stomach, although its own flesh is worth but little. There is an allied genus, the *chironectes*, of which a species abounds on the north coast of Australia. When the tide ebbs far back in the dry season, these frog-fishes are so abundant, and capable of taking such vigorous leaps, that those who have visited these places have taken them at first sight for birds. The fishes of this genus can inflate their large stomachs with air, in the manner of the Tetrodons.

Order II.—Malacopterygii Abdominales.

This order, consisting of soft-spined Fishes which have the ventral fins under the abdomen, contains five families, all of which are highly interesting to the naturalist.

1. The CYPRINIDÆ, or *Carp* tribe, are all fresh-water fishes. They have the mouth shallow, the jaws feeble, and very often without teeth, but the pharynx is strongly toothed. They are among the least carnivorous of

fishes, feeding chiefly on seeds, the roots of plants, and decomposing vegetable matter. The common *carp* is imported into England from the warmer parts of Europe; it thrives better in ponds or lakes than in rivers, it feeds on insects and worms, as well as on vegetables, and it is very tenacious of life, so that it is easily transported from place to place.

2. The family Esocidæ, or *Pike* tribe, contains the most voracious fresh-water fishes, as well as several important marine species. They are distinguished by the absence of fatty matter in the dorsal fin (which exists in the Salmon tribe), and by the position of this opposite to the anal fin. The *pike* is very destructive of the smaller fishes in the ponds and rivers in which it exists, and sometimes attains a considerable size, weighing between thirty and forty pounds. The *gar-fish*, or *sea-pike*, is an allied species, frequenting the British shores and stretching into the Arctic regions. Some of this kind have been known to attain the length of eight feet, and to bite very severely; hence they may be considered as the sharks of northern seas. To this family belongs the most common of the flying-fish, though, as already stated, it is not the only one which deserves the title. The *exocœtus* is at once distinguished from the rest of the family by the immense size of its pectoral fins, by the impulse of which upon the water it is enabled to rise into the air; but it can scarcely be said to *fly*, since it is unable to do more, without again dipping into the water, than partially to sustain itself, and to direct the movement to which the impetus was given at the moment of quitting the water. Nevertheless, the common flying-fish can leap more than two hundred yards in distance, and upwards of twenty feet in height. They are not unfrequently found upon the decks of large vessels, across which they had endeavoured to pass. This power appears to be conferred upon them to enable them to escape from the pursuit of the Coryphæna; but, in avoiding one enemy, they put themselves in the way of others, for voracious birds watch for them and seize them as they rise into the air. They furnish an excellent article of food, and are very abundant in the neighbourhood of some tropical islands; individuals have occasionally appeared as stragglers on our own coasts.

3. The Siluridæ are distinguished from all the rest of the order by the want of true scales; having only a naked skin, or large bony plates. The fishes of the genus *Silurus* inhabit the rivers of warm countries; they have a strong spine in front of the dorsal fin, which can be laid flat on the shoulder, or perpendicularly erected so as to become a formidable weapon; and the ragged wounds inflicted by it are reputed (but probably erroneously) to be poisonous. One species, belonging to the sub-genus *Malapterurus*, an inhabitant of the Nile and of the rivers of Central Africa, has electric properties, similar to those of the torpedo and gymnotus.

4. The fishes of the order Salmonidæ, known as *salmons* and *trouts*, are very extensively, indeed almost universally, diffused over the globe, some of them being confined to fresh water, and others passing a part of their lives in the sea, but resorting to rivers to deposit their eggs. They are distinguished by the fatty deposition in the dorsal fin, from part of which the spines often disappear. All of this family are clouded with dusky patches when young, as occurs in all the species of Cats. Many remain permanently spotted. The flesh of most of them is esteemed as food. The *salmon* inhabits the seas of comparatively cold regions, ascending the rivers for the purpose of spawning at seasons varying with the climate. The efforts which they make to overcome difficulties in the ascent are very great; they will not only swim against powerful streams, but *will leap up cascades* of considerable elevation, and find *their way to the brooks* and small lakes of lofty mountains. They return to the sea after this ope accomplished, and are followed by the young from the eggs they have deposited. These, turn, ascend the rivers for the same purpose, understood to resort to those in which they w duced. The *trout* appears to vary much in colour, according to the climate and other cond its residence, so that it is difficult to distinguish from mere varieties.

Salmon.

5. The Clupeidæ, or *Herring* tribe, is one most important families in the whole class, amount of food it supplies to man. The fishes ing to it resemble the Salmonidæ in many ch but differ in having no fatty matter in the do They chiefly inhabit the seas of the tempera The *herring*, which periodically visits our sh such immense shoals, was formerly supposed to from Arctic seas; but this is now ascertained mistake, the fish being almost unknown there, a appearing on the southern coast of Britain be northern. The fact is rather that the herring, mackerel and many other fish, usually lives in ocean, and resorts to the nearest coast to de spawn. There are many well-known species, but little from the herring, which frequent localities. Thus, the *pilchard* is caught espe the coast of Cornwall and other shores to th ward of those on which the herring most abou *sardine* is taken on the west coast of France a Mediterranean, where the herring never appe *sprat*, *white-bait*, *shad*, and other British specie to the same family; as does also the *anchovy*, w for its rich and peculiar flavour, which is abu the Mediterranean. Other species inhabit t rican, African, and Indian seas and rivers, but less abundant than those already mentioned.

Order III.—Malacopterygii Sub-Brachiati.

The soft-rayed Fishes, which have the ven brought forwards beneath, or even in advanc pectoral, are divided into three families, one of equally important to man with the last, if not This is,

1. Gadidæ, the *Cod* tribe. The fishes of th are easily known by the softness of all their by having the ventrals inserted under the thr pointed. The greater number live in cold or t seas, and furnish a most important article of fo flesh being wholesome, easy of digestion, and a to the palate, and their numbers (owing to the ordinary reproductive power) extremely abund *cod* is nearly the largest of the family, but is surpassed by the *ling*, which is commonly fr to four feet long: both these are especially val their excellence when salted. The *haddock* is species, nearly allied to the cod; for eating in state, it is perhaps the most delicate of the who Many other species are useful to man, occ large numbers in particular localities. Such *whiting*, the *coal-fish*, the *pollock*, the *hauk* (some species frequent high southern latitu *burbot* (which ascends rivers), the *rockling*, a others. Besides their use as food, these fish able on account of the oil obtained from th livers, which is very serviceable in the arts.

2. The second family is that of Pleuronec *Flat-fish* or *Flounder* tribe. The form of the peculiar, not only for the extreme flattenin body, but for its deficiency in symmetry. Th surfaces—one of which (in the ordinary posit fish during life) is above, and the other belo reality the two *sides* of the fish, differing in seve tant respects. Both the eyes are placed on t side; and its colour is usually much deeper other. The body, from the head backwards, p little of the same peculiarity. The two sid mouth are not equal, and the pectoral fins On the other hand, the dorsal fin, which runs of the lateral edges, corresponds with the anal,

ıer, and with which the ventrals are some-
So that, when we look at the fish in its
ı, its body appears more symmetrical than
These fishes are destitute of air-bladder,
quent the bottom of the sea, from which
rise far. The colour of their upper surface
sponds closely with that of the ground on
e; and thus they escape the observation of
s, and are unnoticed by the small fishes on
ırey. Individuals are occasionally found,
which both sides are alike; these are called
t is usually the dark side which is doubled.
f this family are found along the shores of
ıntries, and are, generally speaking, whole-
reeable as food. The form and aspect of
; species exhibits little variation. The
bot, brill, plaice, dab, and *sole*, are the chief
ır own coasts; the *halibut* is a very large
ning the length of six or seven feet, and
0 lbs., occasionally taken in the British
her species inhabit the Mediterranean.
ıcoboli, so named from having their ven-
ıed into a sucker or disk, are the last fa-
ırder. By this curious provision, the fishes
this family have the power of attaching
to rocks and other hard substances, and
and find their food in situations where
species would be swept away by the cur-
r.

Order IV.—Malacopterygii Apoda.

in which the ventral fins are wanting form
ural family, the Murænidæ, or *Eel* tribe.
l lengthened in form, have the spine ex-
ible, the skin thick and soft, and the scales
ble. In most of them the external gill-aper-
ry small, and open very far back; by which
t they are enabled to keep the gills moist
ne when out of water, whilst the roundness
ty of their bodies facilitate their motion
Many of them inhabit rivers, whilst others
ely marine. The *eel* is the kind most abun-
ain. The *conger* is a marine eel, frequent-
ɔpean seas; it is one of the largest of the
g from four to six feet long, and as thick as
The *gymnotus*, or *electric eel*, is a native
ı American rivers. It attains the length of
feet, and communicates shocks so powerful
d horses have been stunned by them. This
s voluntary, and can be sent in a particular
· even through the water, the fish in which
· stunned by its shocks. By giving these it
hausted, and requires rest and nourishment
ı renew them.

Order V.—Lophobranchii.

r is a very small one, containing but one
hich the genera are few. Their appearance
uliar. The tufted gills are covered by a
ılum; but this is bound down by membranes
so that there is only one small hole for the
ape. The body is covered, not with small
rith shields or plates, which often give it an
n. In general they are of small size, and
ɔut flesh. The *syngnathus* possesses a long
ut; it is peculiar for the protection which
its young, which resembles that provided
supial Mammalia. The eggs are conveyed
ɔf pouch under the body of the male, and
l there, the young fry afterwards finding
ut. Some of these are found in the British
also the *hippocampi*, commonly called sea-
ı the resemblance of the upper part of the
ially when the dead specimen bends in dry-
head and neck of a horse in miniature.
ı prehensile, and they climb or hold on to
f marine plants by its means. Some of this
ılmost destitute of fins, having none but the

Order VI.—Plectognathi.

This order, the last of the osseous Fishes, approaches the cartilaginous in many points of its organisation; principally, however, in the slow ossification of the skeleton, and the imperfect structure of the mouth. They derive their name, as already stated, from the union of the upper jaw to the skull; so that its motion is obtained, not from a distinct joint, but by the mere flexibility of the half-ossified cartilages. The gill-lid is concealed under the thick skin, with only a small opening; the ribs are scarcely developed; and there are no true ventral fins. This order contains two families.

1. The Gymnodontes, or Naked-Toothed Fishes, are distinguished by having the jaws covered with a substance resembling ivory, arranged in small plates (which are reproduced as soon as destroyed by use), and really representing united teeth. They live on crustacea and sea-weed, and their flesh is not palatable. Some species are reputed to be poisonous, at least at particular seasons. The most remarkable species of this family are the spinous globe-fishes, *diodon* and *tetraodon* (their technical names being derived from the apparent division of their jaws into two and four tooth-like pieces respectively), which have the power of blowing themselves up like balloons, by filling with air a large sac which nearly surrounds the abdomen. When thus inflated, they roll over with the belly upwards, and lose all power of directing their course; but they are remarkably defended by spines over their whole surface, which are erected as they are inflated. They are mostly inhabitants of warm seas, but a specimen is occasionally drifted to our coasts. The *sun-fish* has a body of somewhat similar form, but incapable of inflation; the tail is so short that it looks like the anterior half of a fish cut in two in the middle. Some species attain an immense size. One which is occasionally taken on the British coast has been known to weigh 300 lbs., and others are much larger.

2. The second family, Sclerodermi, contains fishes which are remarkable for their very hard and granulated skins. They have a prolonged muzzle, with distinct teeth. Their skin is covered with scales in some species, and in others very rough, like a file, whence they are commonly termed *file-fishes*. They are principally inhabitants of warm seas, living near rocks or on the surface of the water, their brilliant colours sparkling in the sunshine like those of the Chætodons.

DIVISION II.—CHONDROPTERYGII OR CARTILAGINOUS FISHES.

The skeleton of these fishes is not entirely devoid of calcareous matter, but this is disposed in separate grains, and does not form fibres or plates. Hence the hardest portions of the framework remain quite flexible. The freedom of motion of the spinal column, which is characteristic of fishes in general, is here still further increased, in many species at least, by the continuation of the sac containing gelatinous matter (which in the osseous fishes was simply interposed between each pair of vertebræ) through the whole column, the bodies of the vertebræ being pierced in the centre so as to form a continuous tube. This division contains two subordinate groups: in the first, the gills are attached by one edge only, hanging in fringes as in the osseous fishes; in the second, they are so attached to the skin by the second edges, that the water cannot escape from their intervals except by holes in the surface. Accordingly, instead of having a single pair of large apertures, with a valve-like cover, or *operculum*, behind the head, they have as many apertures on each side as there are arches of gills. The first series contains but one order, and the second the other two.

Order VII.—Chondropterygii Branchiis Liberis.

This order contains only one family, the Sturiones, or *Sturgeon* tribe. In many of its characters, as well as in the disposition of the gills, it is intermediate between the Osseous Fishes and the Shark tribe, which may be

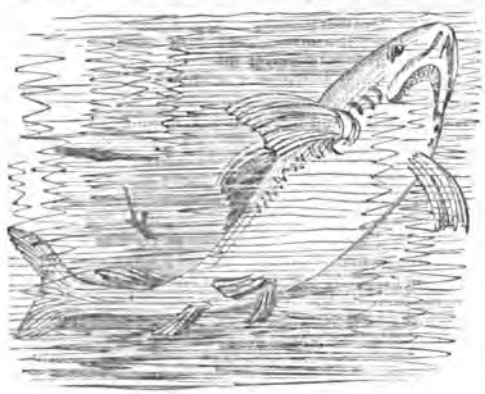
regarded as the types of the Cartilaginous division. Sturgeons are chiefly river fish, and from their large size, vast numbers, and the quantity of food and other important products they afford, are extremely valuable to man. The common sturgeon of the British shores is about six feet long, and its flesh is somewhat like veal. The rivers falling into the Black and Caspian Seas, however, produce several other species, of which the largest not unfrequently attains the length of fifteen feet, one individual being recorded as having weighed 3000 lbs. The roe of the sturgeon furnishes the caviar so much esteemed in Russia; and its air-bladder furnishes isinglass.

The section of CHONDROPTERYGII BRANCHIIS FIXIS is divided into two orders, the first having teeth, and the second having the mouth formed into a sucker.

Order VIII.—Selachii.

This order only comprises one family, that of *Sharks* and *Rays*. A great metamorphosis here takes place in the condition of the bones of the mouth, those which are commonly termed the jaws, in which the teeth are fixed, being very different in position and character in osseous fishes, and the true jawbones not being here developed. This tribe is distinguished from other fishes by many peculiarities: in several members of it the young are produced alive, the eggs being hatched within the body of the parent; and in others the eggs are enclosed in a peculiar horny casing, which has often long tendril-like appendages, that coil round and attach them to other bodies. This is the case with the eggs of the common *dog-fish* of our coast, vulgarly known as *sea-purses*. The Sharks much resemble ordinary fishes in their form, having the gill-openings on the sides of the neck, and the the eyes on the sides of the head, in both of which respects the Rays differ from them. The *dog-fish* of the British coasts differs but slightly from the true sharks, and is, in its way, equally voracious.

The *white shark* is the most celebrated species of the tribe, being, from its size and voracity, the terror of mariners in the seas it inhabits. It frequents warm



White Shark.

latitudes, but has occasionally visited the British shores. It has been known to attain a length of thirty feet, and the opening of the jaws in the largest individuals is sufficient to admit with ease the body of a man. The mouth is placed on the under surface of the head, from which circumstance the fish cannot bite whilst in the act of swimming forwards, so that a dexterous person has been known to defend himself from its attack.

A remarkable genus allied to the Sharks is the *zygæna*, or *hammer-headed shark*, so named from the projection of the head at each side in the form of a double-headed hammer, with an eye in the middle of *each extremity*. The *pristis*, or saw-fish, is another *interesting genus*. Its general form and character is like that of the sharks, but the snout is ext the blade of a sword, with strong and cutting spines on both edges. With this formidal the fish, which sometimes attains the leng twelve to fifteen feet, will attack the largest inflict dreadful wounds. To the shark tribe the *angel fish* of our own coasts, which forms to the rays in its general structure and ha eyes are situated on the back or upper sur head; the body is broad and flattened horizo the pectoral fins widely expanded. It comm to the length of seven or eight feet; its appear belies its name, being (according to our ideas one of the ugliest of fishes, but its flesh is by unpalatable.

The *Rays* are less numerous than the Sh abound rather in temperate than in tropical are characterised by the extreme horizontal of the body, in which, however, there is not (Pleuronectidæ) any want of lateral symmetry sides are expanded horizontally, and unite expanded and fleshy pectoral fins to form on ous surface. The eyes are placed on the back surface, whilst the mouth, nostrils, and gill are below. To this group belong the *rays* a *thornbacks*, and other species; but the most i of all is the *torpedo*, or electric ray, sometimes the Channel coast of England, but more ab the Mediterranean. The electric apparatus similar structure with that of the *gymnotus*, disposed in the space between the pectorals head and gills. The shocks given by this fish smart, are not so benumbing as those of the g their use in its economy are not apparent, as mal can obtain its prey without them. The fl rays is wholesome, and that of most species as food. The skin of some of them is employ arts for polishing, and, from that of others, sh made.

Order IX.—Cyclostomata.

The third order of the Cartilaginous Fishes, last of the class, is one which contains comp few species, and these exhibiting but a very gree of organisation. They take their name adaptation of the mouth to the purposes of suc its transformation into a round fleshy disk, ha oral opening in the centre, and the margin s by a ring composed of the cartilaginous jaw together. The spinal column loses its distinct into vertebræ, the space elsewhere occupied bodies being traversed from end to end by a cy membranous tube filled with a mucilaginous fl this, in the higher species, presents cartilagino at intervals, which are the rudiments of ve whilst, in the lower, there is no vestige of thes and the whole structure is reduced to the level of the Annelida. The pectoral as well as the fins are absent; and the skin is soft and muco scarcely a vestige of scales. This order contai single family. The *lampreys* are the most other fishes in their general organisation; they teeth within the ring, and with these they bodies of the animals to which they attach the There is a marine species two or three feet l other smaller ones which inhabit rivers. The or *hag* is destitute of eyes, and is altogether organisation than the lamprey; but the spec differs most in its general characters from th the class is the *amphioxus*, or lancelot. This small animal, about an inch long, sometimes fou ing under stones in pools left by the ebbing tid destitute of almost every one of the characte have been mentioned as peculiar to vertebra nuals; and, nevertheless, can scarcely be cla where else than with this family.

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ZOOLOGY—(CONTINUED.)

SUB-KINGDOM—ARTICULATA.

: the Vertebrata we might pass, in descending the al scale, either to the Mollusca or the Articulata, of which exhibit some points of approximation them. In both we meet, as in the Vertebrata, very highly organised as well as very simply con- ted beings. In both we find animals much superior e lowest Vertebrata; and in both, also, we find es which are in many respects below the highest ata. It is the necessary consequence of a *natural* agement, which aims at grouping together the rent forms of living beings according to the type an on which they are constructed, that such should e case. Neither of these two sub-kingdoms can garded as in all respects superior to the other. high development of the locomotive power in the ulata strikingly contrasts with its usually slight sion by the Mollusca. On the other hand, the tive and nutritive systems in the Mollusca are h more complex, and attain a higher organisation; at the heart, for example, of the Tunicata is as rful in its action on the circulating fluid as that of highest Articulata. On the whole, however, the ulata should be regarded as ranking above the lusca in the animal scale, since it is in the *animal* rm that the former have the superiority.

he general character of the series has been already n as being the jointed or *articulated* character of skeleton or hard portion of the structure, and the ture of the whole body in this. Nothing can be nd in the Mollusca at all approaching in character to shell of a lobster or the horny case of the beetle. the peculiarity of the skeleton in the Articulata, it not merely encloses the body, but is prolonged the appendages for locomotion, where they exist; the portions of it which cover these are also jointed, the sake of conferring upon them the requisite bility. This structure is more apparent, however, me cases than in others. In the lowest animals is series, where there are no appendages for loco- on, and where all movements are effected by the itself, this is endowed with great flexibility, and whole envelope is so soft that the division into seg- s can scarcely be recognised. This is the case, xample, in the leech and earthworm. The articu- character is most apparent in the Centipede tribe, e the segments are all of nearly equal size, and e each possesses a short pair of legs, which are selves also articulated. But in the highest classes is sub-kingdom we again lose the appearance of division into segments, from an opposite cause— consolidation of several rings into one piece. In portion as the locomotive power is more intrusted e extremities, so does it become unnecessary that trunk should possess much flexibility; and in the e proportion does it become necessary that the portion of it from which arise the muscles of those extremities should be very firmly framed. Accordingly, the part of the body behind the head, which is called the *thorax*, and from which the legs and wings of Insects, and the principal walking legs of Crustacea, have their origin, very commonly appears as if composed of one piece, although it is really made up of three or more segments, each one of which gives origin to a pair of members.

The Articulata are almost invariably of small size; and the bulk of their bodies is made up, not by their digestive and nutritive apparatus, but by the muscles which move it. It is only in those which approach the Mollusca in the vegetative nature of their existence, that we find any considerable dimensions attained. As the Mollusca are an essentially aquatic group, so are the Articulata principally adapted to atmospheric respiration; and the most active among them can even quit the surface of the ground and mount up into the air. We find their respiratory apparatus constructed, therefore, upon an opposite plan. Instead of the blood being sent into external prolongations of the surface—the gills—to meet the air contained in the surrounding fluid, the air is introduced into the body to meet the blood, this being distributed on the sides of cavities or tubes into which it enters. In Insects these tubes have a very complex and beautiful distribution through the body.

The Articulata exhibit a peculiarity in the nervous system, which often enables the real character of doubtful animals to be distinguished. A double cord runs along the centre of the *lower* surface of the animal, studded with knots or *ganglia* at regular intervals, which are so many centres from which the nerves pass off to the different segments. The head, also, has its ganglia, in which the double cord terminates anteriorly. Where the members, however, are not uniformly distributed along the whole body, but are concentrated to one part, as in Insects, Arachnida, and the higher Crustacea, we observe a corresponding concentration of the ganglia in that region. The degree of this concentration indicates the elevation of the animal in the series.

The following classes must be arranged in the articulated series, though in some of them the characteristic structure is very indistinct:—

ANNELIDA, or *Worm* tribe. In these the body is prolonged, without any distinct appendages for locomotion. The habitation is usually aquatic, though sometimes terrestrial. The division into segments is not very distinct, the entire skin being soft.

MYRIAPODA, or *Centipede* tribe. These have also a prolonged body, but it is provided with legs; and the articulation of the covering both of the body and legs is very distinct.

INSECTS, which are distinguished in their perfect state by the possession of one or two pairs of wings; by the restriction of the legs, which are never more than six

in number, to the thorax; and by the division of the trunk into three portions, the head, thorax, and abdomen, which are usually very distinct from one another. They are also distinguished by their remarkable metamorphosis, commencing from a form which resembles that of the Annelida.

ARACHNIDA, the *Spider* and *Scorpion* tribe, which differ from insects in having the head and thorax united, in undergoing no metamorphosis, and in having eight or more legs.

CRUSTACEA, which have a hard envelope, principally composed of earthy matter, and which are adapted for aquatic respiration. Many of them have the form of insects; but their legs are never less than ten in number.

The foregoing constitute a tolerably regular series, into which we must also introduce the ENTOZOA, which seem to exhibit the characters of the Worm tribe in their most degraded condition, and the animals composing which are parasitic upon or within others; the ROTIFERA, or *Wheel-Animalcule* tribe, of which some approach the Polypifera and Polygastrica, whilst others approximate the Crustacea; and the CIRRHOPODA, or *Barnacle* tribe, which bear a strong general resemblance to the Mollusca, but unquestionably belong to this series.

CLASS VI.—INSECTS.

The class of Insects is perhaps the most interesting in the whole animal kingdom, both in regard to the number, variety, beauty, and complexity, of the different forms which it contains, the vast assemblages of individuals of the same species which not unfrequently make their appearance together, and their consequent importance in the economy of nature.

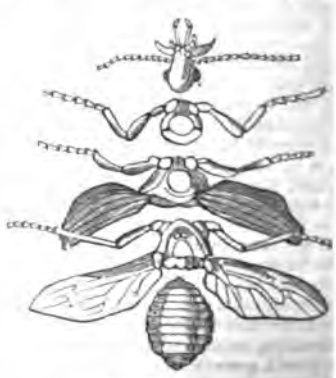
The true INSECTS are distinguished from the Crustacea by their peculiar apparatus for atmospheric respiration; from the Arachnida by having but six legs (eight being the number in that class), and by the division of the body into three parts; and from the Myriapoda by the limited number of legs and segments, the latter seldom exceeding thirteen. In the perfect Insect it is sometimes difficult to distinguish the division into segments; they may generally be seen, however, on the lower side of the body, especially on the abdomen. But in the larva or caterpillar state they are never obscure, and their number is very constant, being almost always thirteen, one forming the head. Of the twelve segments of the body, three in the perfect insect form the thorax, or division succeeding the head, whilst the remaining nine constitute the abdomen. It is more common for one or two segments to be apparently deficient (being consolidated with the rest), than for any increased number to be present.

The *metamorphosis*, or complete change of form, which may be seen in the greater number of insects during their development, has attracted much attention from the earliest ages to the present time. The *larva*, which afterwards changes to a beetle, a butterfly, or a wasp, bears no resemblance whatever to the perfect or *imago* form, and is in fact allied, in almost every particular of its conformation, to a class far beneath. Moreover, it has to go through an intermediate form—if any thing, still more remarkable—that of the *pupa* or *chrysalis*, in which there is an almost complete cessation of activity, but in which preparation is being made for the exit of the perfect insect at its final change. The alteration of the entire character of the animal is no less remarkable that its change of form. In the *larva* condition, its whole energies seem to be concentrated upon the nutritive functions; the voracity is extreme, and the increase in the weight of the body is very rapid; whilst, in the perfect insect, the body undergoes little increase of size, but it is provided with powers of active movement, and these are principally destined to enable it to seek its mate, for the purpose of propagating its race.

The *larva*, when it first emerges from the egg, bears but a very small proportion to its subsequent bulk. According to Lyonnet, the comparative we full-grown caterpillar of the goat-moth to t young one just crept out of the egg, is as 72 During its increase, it throws off its skin seve like the Crustacea. The larvæ in the differ vary extremely as to the degree of their dev in some orders they are extremely imperfect, possessing legs; whilst in others they corres the perfect insect in almost every particular presence of wings.

After attaining its full growth in the larva (the bulk of the body in this state often much that of the imago), the insect undergoes a ver able change, ceasing to take food, and appare all appearance of vitality. In this state it is t *pupa* or chrysalis. Many larvæ enclose them silken cocoon, or in some other kind of envelo undergoing this change; and remain in it d whole period of inactivity, which is sometim months in duration. Others bury themselv ground; and others, again, suspend themsel air. The pupæ of different orders of insects the larvæ, both in form and in degree of torp have the whole body enclosed in a horny cas vestige of members, and are totally inactiv when disturbed; whilst others present the gen of the perfect insect, but appear as if the body were separately bandaged, and laid in close a whilst others retain all their limbs free, and diminution in their locomotive powers or in t fite for food. These, indeed, can scarcely b pass into the pupa state at all, their condit only indicated by the gradual development of t This development is equally taking place be envelope of the pupæ that are enclosed and i

The perfect insect or imago, when it emer its pupa case, exhibits in all respects the *fo* is characteristic of the species, and, in genera also; few growing much after they have atta condition, and many scarcely eating at all. A mentioned, the twelve segments forming the b larva may still be recognised here, but ve changed in their character. The three ante are often soldered, as it were, together; for one strong sheath for that portion of the b which the wings and legs proceed, and th affords firm attachment for the powerful musc move these organs. Those which constitute men, however, retain much more of their aspect. The head is now quite distinct from and connected with it by a neck, which is narrow. From each of the segments of the pair of legs proceeds; and the second and thir give origin to a pair of wings each. Where, only one pair of these organs exists, they proc the second segment. The segments of the never show any vestige of legs. The accor diagram represents the chief parts of the perfe



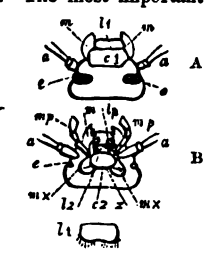
Segments of Insect.

egments of the thorax are separated from to show the organs attached to them.
cial function of the perfect insect is the con- the species; and the wings enable it to seek id to obtain a situation fit for the deposition which are always laid in the neighbourhood : substances will supply the larvæ with nou- lthough it most commonly happens that the not feed upon them. Many insects, such *corm* moth and the *ephemera* or May-fly, die having fulfilled this object, to which they :y soon after their last change.

' extraordinary is the metamorphosis of in- y no means *unique*, as was formerly supposed: : of the tadpole into a frog, is an exact pa- ; for the tadpole is for the time a fish, re- iat class in its entire organisation, just as is for the time a worm. Moreover, we shall ee, in some of the lower classes, a change lly as remarkable. When the larva is very and the pupa inactive, so that its change to the perfect insect is very striking, the meta- is said to be *complete;* but if the larva is ıced, and the pupa differs little from it and erfect insect, the metamorphosis is termed

n their perfect state, are distinguished beyond iimals for their power of locomotion, and for on of their instinctive actions. In estimating r of locomotion, the space traversed is of pared with the length of the body; and thus iat, rapid as is the flight of many birds, that ects far surpasses it. The senses of insects ɔe acute. They have generally large eyes, fact, by the union of a great number of small ı several thousand; and although these are from their being directed at various angles er, a great range of vision is obtained. It is at insects possess the power of hearing, and ll; though no distinct organs for receiving essions have been satisfactorily determined. have a delicate sense of touch in some part , even where the general envelope is firm, questioned; and, from observations made ɔcial insects, such as bees and ants, there is elieve that they communicate with each other se.

:rent organs on the head of insects, furnish, rieties of conformation, important characters ation. It will, therefore, be necessary to ese in some detail. The most important , upon which, in primary subdivision ss is founded, are m the structure of ; in one large group hed with *mandibles* lapted for biting and whilst in the other, ed with a *haustellium* is, adapted for suc- ce the first group is NDIBULATA, and the AUSTELLATA. These , however, but dif- ifications of the same



Different parts of the mouth of a beetle.*

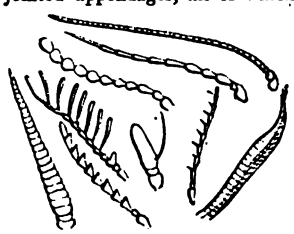
ıouth of the Mandi- principal pieces may distinguished. Of r are arranged in which work against laterally; a fifth ove the upper pair, h below the lower.

* side; B, under side; C, parts separated: *a a*, an- yes; *l* 1, upper lip; *m m*, mandibles; *m x*, maxillæ; ry palpi; *l* 2, labium; *l p*, labial palpi; *c* 2, chin or

The two lateral pairs are the jaws; of which the upper pair is distinguished by the name of *mandibles*, and the lower by that of *maxillæ*. The mandibles are usually the largest, and are very powerful organs; sometimes they are provided with sharp or toothed edges, working against each other like those of a pair of scissors; and sometimes with hooked points, more formidable, for the size of the animal, than the teeth of the tiger. These are the principal organs by which the food, of whatever description, is usually obtained; but in the bees and wasps, of which some species are adapted to obtain their nourishment by suction, they are the instruments by which their curious edifices are built up. In a word, as has been well remarked, they supply the place of trowels, spades, pick-axes, saws, scissors, and knives, as necessity may require. The *maxillæ*, or under pair of jaws, are of similar construction, but usually smaller and less powerful. The pieces which are applied above and below to the spaces left between the jaws, are termed *lips;* the upper one being particularised as the *labrum*, and the lower one as the *labium*.

Various modifications of these parts are seen in the different orders of insects, but their existence may always be detected under some form or other. The most remarkable alteration in the structure of the mouth is that which we find in the Lepidoptera or Butterfly tribe. Instead of cutting jaws, we observe a tubular appendage or trunk, which is often of considerable length, and coiled spirally beneath the head, but capable of being unrolled when its point is required to descend into the corollæ of flowers. This tube is composed of two long narrow filaments, which are in fact the *maxillæ* excessively drawn out; these filaments are channelled on the sides at which they approach one another; and by the adhesion of the edges of these channels, which lock together by means of minute teeth, a complete tube is formed. In this mouth, therefore, all the parts except the maxillæ would seem at first sight to be wanting; but they may be detected by a careful examination, and the rudiments of the upper lip, of the mandibles, and of the lower lip, as well as of the *palpi* (organs to be presently described), may be distinctly demonstrated. In other instances, an entirely different modification of the same parts may be observed, which will be noticed in the proper place.

The head of the perfect insect is usually furnished with three pairs of jointed appendages, all of which are probably instruments of sensation. The first of these are termed *antennæ;* they are affixed to the sides of the head, and usually between the eyes and the mouth. The number of joints in them, and the forms they present, vary in the different tribes of insects, as also does their size, within very wide limits. Sometimes they are three or four times as long as the whole body, and sometimes they are scarcely to be perceived; sometimes they are simple thread-like organs, gradually tapering from the base to the point; sometimes they swell out towards the extremity; and often they possess side branches or appendages of various forms. These different characters are extremely useful in classification. The *palpi*, or feelers, are organs which are not dissimilar in general character, but are usually of much smaller size, consisting of seldom more than six joints; of these, one pair is attached to the *maxillæ*, and the other to the *labium*, and they are called *maxillary* and *labial palpi* respectively.



Variously formed Antennæ.

The uses of these organs are involved in some obscurity. There is good reason to believe that all of them are organs of touch; and this sense is probably some-

times most acute in the antennæ, and sometimes in the palpi. There is also reason to believe that the sense of hearing is in some way connected with the antennæ; and a curious modification of the joint at the base seems to be particularly appropriated to this function. It has also been thought that the antennæ minister to the sense of smell.

The *wings* of insects are the organs most peculiar to them; nothing at all analogous being developed in other articulated animals. They consist of a double layer of membrane, prolonged from the skin which covers the body, and partaking of its characters. This membrane is supported by a frame-work of harder structure, composed of ribs, which go by the name of *veins* or *nerves*. These terms must not be supposed to imply any analogy of structure with the organs they designate in higher animals; they are rather drawn from the analogous parts in the leaves of plants.

There is scarcely any organised substance upon which insects are not adapted to prey. In regard to the food of individual tribes of insects, it may here be stated generally, that some are purely carnivorous, devouring only prey which they have themselves killed. Others eat carrion, and even keep it until its decomposition is advanced. Others are herbivorous; some feeding only upon particular species of plants, whilst others are not restricted, but feed upon almost any vegetable substance. Others again are omnivorous, and will attack almost any thing that falls in their way. The excessive multiplication of insects, which would result from the enormous number of their eggs, and from their rapid growth, is prevented by the influence of other tribes of animals, as well as by the wars of their own tribes against each other. The destruction of the larvæ of some insects by those of others is often enormous, and far exceeds in proportion the diminution in their numbers effected by higher tribes. There are no classes of animals formed to exist on land, however, of which part do not derive a great proportion of their food from insects; and thus, if man does not interfere with the economy of nature, a balance is maintained, which is rarely disturbed. But if these higher tribes be destroyed (as, for example, if a rookery be dispersed), insects will then multiply inordinately, and will become a pest to the country.

Insects are distributed abundantly over all the portions of the globe yet trodden by man. Even in the coldest regions which he has yet explored, they present themselves to his notice during the brief summer; and no severity of the winter appears capable of destroying their vitality, although it reduces them to a state of complete torpidity. It is in tropical regions, however, that the largest and most brilliant species are usually found.

With these general remarks, we are now prepared to consider the principal subdivisions of this important class in more detail. These subdivisions are principally formed upon the character of the wings; since it is found that the structure of these organs affords a good general index of that of the body in general. But it cannot be trusted to alone. For, whilst certain orders may be included under the general designation *Aptera* or wingless, and another is termed *Diptera* or two-winged, we find wingless and two-winged insects in all the other orders.

Winged insects may be distributed amongst the eight following orders, of which the first four are Mandibulate, whilst the rest possess a mouth formed for suction, and are termed Haustellate.

1. Coleoptera (*Beetles*). In these the two anterior wings are converted into a horny or leathery substance, and enclose the posterior when folded.

2. Orthoptera (*Grasshopper, Cockroach*). In these the anterior pair of wings is composed of a substance more resembling membrane.

3. Neuroptera (*Dragon-Fly, White-Ant*). Both pairs of wings are membranous, and the nerves form a close network by their interlacement.

4. Hymenoptera (*Bee, Wasp, Saw-Fly*). Both pairs of wings are here also membranous; but the larger areas between them. The tail is poss sting.

5. Homoptera (*Cicada, Lantern-Fly*). In the four wings are of the same consistence, of what parchmenty; and, when folded, they inc angle like the roof of a house.

6. Hemiptera (*Bugs*). The anterior pair is horny or leathery, but generally tipped wi brane; both pairs are horizontal or but slightly

7. Lepidoptera (*Butterflies* and *Moths*). T four membranous wings, covered with minute

8. Diptera (*Gnat, Fly*). These have but t and are in many respects parallel to the H tera.

Besides these, there are some small orde mediate between the principal groups. Thus a order, Trichoptera, has been formed to include *worm-flies*, which are intermediate between tera and Neuroptera. The order Strepsipte comprehends a small group termed *wasp-fl* mediate between the Lepidoptera and Dipte

The Aphaniptera, the order to which the longs, are entirely *apterous* or wingless, and but undergo a metamorphosis, by which they alliance with the Diptera.

The Wingless Insects, which do not und metamorphosis, may be distributed into two 1. Parasita (*Louse*); and, 2. Thysanoura (*Spr Spring-tail*). These connect true Insects Myriapoda.

These orders will now be considered more i

Order I.—Coleoptera.

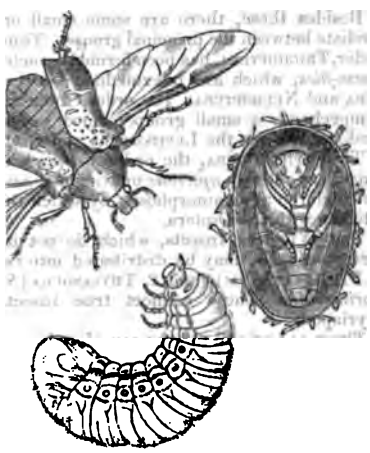
This order comprehends all insects which anterior pair of wings converted into wing-*elytra*, and which undergo a complete metam These wing-cases are of horny consistence, opaque, or nearly so. When expanded, the little or no use in flight; and, when closed, t along the back, in a strait line, which is c suture. The second pair of wings constitute organs of flight; they are of large size, and branous texture; and, when unemployed, they up in several transverse folds, and are entirely c beneath the elytra. The mouth is formed for mas and possesses two horny mandibles. The head vided with two antennæ, of variable form, and the number of joints is usually eleven; these ofte considerably in the two sexes. The eyes are la protuberant, especially in the carnivorous spec in those, the slowness of whose habits makes th quick powers of sight for the purpose of avoidi enemies.

The body exhibits a well-marked division int and abdomen. The former consists, as usual, segments; but the first of these is so largely de at the expense of the rest, as to appear almost stitute the thorax in itself. The abdomen usu sists of only six or seven segments; the rema the nine which properly form this part being lidated in the last.

Although the characters already mentioned a cable to by far the greatest number of insects inc this order, nearly all of them are subject to ex Thus, there are some species in which the flight are altogether wanting, as in the female of worm; others which have elytra, but no wings again, in which the elytra adhere together a suture; others, in which they overlap; others, they do not meet; and others, in which the v longitudinally folded. It is well for the stud aware that such exceptions exist in almost ev natural group, however definite its characters t rally be. In none of these instances is there tion as to more than one or two of the charac remainder conform to the usual type. The versal is that of the metamorphosis, which, b plete, distinguishes this order from others ap

ucture of the mouth or in the character of

e are worm-like in their aspect; the head is ny, and the rest of the body soft. There is pair of short jointed legs attached to each first segments, representing those of the ct. Those which possess legs are usually heir habits; but there are others which, tired life, and being born in the midst of (such as the nut weevil), are destitute of larvæ of the carnivorous species have in most robust legs; and in some of the her- pecies these are replaced by fleshy pro- r pro-legs. A pair of these generally exists



Rose-beetle, in its different shapes.

segment of the abdomen. Previously to its change, the larva often forms a case for s of earth or chips of wood, united by silken glucy matter. The *pupa* or chrysalis is metimes even for years, and takes no nour- ut the form of the future beetle is plainly the different parts being encased in distinct

much difficulty in forming a simple natural n of this immense tribe, on account of the er of distinct species it includes, and their eral resemblance to one another. Hence it ecessary to resort to characters of great as the groundwork of the system; and it happens that, by the adoption of such a plan, ch are in reality closely allied in general are placed in different groups, and others are gether which are generally dissimilar. No em has yet been proposed, however, than treille, who took as the basis of his classifi- number of joints in the *tarsi*, or divisions of e thus formed the four following sections:—

AMERA (or five-parted), in which the tarsi eet are five-jointed, the fourth being of ordi-

TOMERA (or differently-parted), in which the or tarsi are five-jointed, and the two poste- pointed.

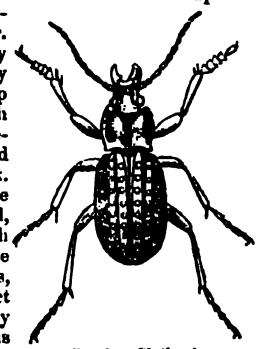
AMERA (or four parted), in which all the tarsi distinct joints. It has lately been observed, hat the fifth joint exists in these, although minute, and concealed in one of the others.

ERA (or three-parted), in which only three ized joints exist in the tarsi—a fourth of however, being also present. Hence these ections may be more correctly denominated tramera and Pseudo-Trimera.

these sections contains several families, of most important will now be noticed.

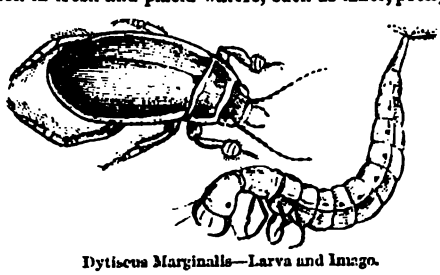
I. PENTAMERA.—1. The first family of this section is composed of Beetles exclusively carnivorous, hunting after and devouring other insects, and carnivorous even in the larva state. These *Carnivora* are characterised by the possession of six palpi, and by the termination of the jaws in a sort of claw or hook. Some of them are aquatic; others terrestrial. In many species there are no wings under the elytra. The terrestrial carnivora have legs fit only for running; their body is elongated, and their eyes are prominent.

To this division belongs the tribe of *Carabidæ*, which is of very great extent, above two thousand species having been brought together by a single collector. Their bodies are of very firm consistence, whereby they are enabled to creep under stones, and through fissures, and are also prevented from being injured by the insects they attack. They prowl about on the surface of the ground, under stones, &c., beneath the bark of trees, or in the moss growing at their roots, in search of their insect prey, which principally consists of the herbivorous species. Some of them are nocturnal in their habits, feeding upon Cockchafers and other species of herbivorous beetles that fly abroad by night. The habits of the family are not exclusively carnivorous, however, for some species generally found in corn-fields are clearly ascertained to feed upon growing grain. Many larger species of this tribe are provided with a very curious means of defence; being enabled to exhale a very fœtid odour, and to discharge from the abdomen, to a considerable distance, an acrid fluid capable of producing considerable irritation. In the *brachinus*, this fluid is so highly volatile, that, immediately on coming in contact with the air, it becomes a bluish vapour of very pungent scent, and makes a sort of explosion; hence the species possessed of this power have been termed Bombardier Beetles. They mostly live in societies.



Carabus Clathratus.

The *aquatic* Carnivora form a tribe far less numerous than the terrestrial species, and are characterised by the peculiar modification of the legs, which adapts them for swimming, these members being flattened and fringed with bristles, so as to serve as oars. They pass their larva and perfect states in water; quitting it, however, in order to undergo their metamorphosis into pupæ. The larvæ have the body long and narrow, with a strong head armed with powerful mandibles, and they are of very active carnivorous habits. They breathe by organs adapted for aquatic respiration, but the perfect insect can only breathe air, and it is obliged to come to the surface occasionally for that purpose. The *dytiscus*, the principal genus of this tribe, is common in fresh and placid waters, such as lakes, pools, or



Dytiscus Marginalis—Larva and Imago.

ditches. Its larva feeds upon other aquatic larvæ, such as those of dragon-flies, gnats, &c., and moves quickly through the water, striking it by its expanded tail. The pupæ may be found buried in the adjoining banks.

2. The next family is that of BRACHELYTRA, which possess but four palpi, and are distinguished, as their name imports, by the shortness of the wing-cases. The family consists of only one genus, *Staphylinus*, of which one of the largest species is known by the name of devil's coach-horse, and is frequently to be seen running about garden walks. These insects run and fly with equal agility. They are very voracious, but do not feed upon living prey, deriving their nutriment from dead and decaying animal matters, especially fungi, &c., in which they chiefly reside. They are also found in profusion under heaps of putrescent plants. They all possess the faculty of emitting a powerful odour, which seems to serve as a means of defence; and this is, in some instances, of peculiarly fœtid character. The larvæ feed on the same substances, and frequent the same situations, as the perfect insect. This group leads, in many respects, towards the Earwig tribe, with which the next order commences.

3. The family SERRICORNES is distinguished by the toothed or serrated form of the antennæ. Like the last, it possesses four palpi; but the elytra completely cover the body. Some of this family, having the body of solid consistence and oval in form, have the head buried, as it were, in the thorax, which advances on its two sides nearly as far as the mouth. In this way are formed the *Buprestis*, distinguished for the splendour of its colours, many of its species having spots of golden hue upon an emerald ground, whilst in others azure glitters upon the gold. These brilliant species belong to tropical climates, which these insects appear especially formed to inhabit, our native species flying with the greatest activity in warm weather. They live among trees; and if an effort be made to seize them, they counterfeit death, and fall to the ground. The beetles belonging to the allied genus *Elater* are commonly called skip-jacks; for, when laid on their backs, being unable to raise themselves on account of the shortness of their feet, they spring perpendicularly in the air, so as to alight upon their feet. This is effected by a violent backward blow of the head against the surface on which they are lying. The larva of an English species is known to the farmer as the wire-worm, which does much injury by devouring the roots of the corn. A species of elater inhabiting the West Indies and South America, has two brilliantly luminous spots upon the front of the thorax; and a portion of its abdomen which is uncovered during flight is also illuminated.

Another interesting genus of this family is the *Lampyris*, to which belong the glow-worm of this country, and some of the fire-flies of warmer regions. The body of these insects is very soft, especially the abdomen; and it is from the two or three last segments of this part of the body, that the phosphorescent light for which they are so remarkable, is emitted. Its intensity is evidently dependent in a great degree upon the state of the animal; if the insect be irritated it is increased, but if its powers are depressed or exhausted it is lessened. It seems to be sometimes withdrawn simply at the will of the animal. In the glow-worm (*L. noctiluca*) it is only the female that is luminous; and she is destitute of wings and elytra, which the male possesses. They are only active by night; and as the male is known to be attracted, like moths, by lights in houses, it is probable that the phosphorescence of the female is given for the purpose of signalising her position to him. In most of the tropical species, both sexes are furnished with wings.

4. The next family of Pentamerous Coleoptera is that of CLAVICORNES, characterised by the club-shaped form of the extremities of the antennæ. These are partly terrestrial and partly aquatic; they feed for the most part on animal matter, at least in the larva state. The terrestrial ones seem to prefer substances which are in a state of decay; they creep slowly, and are mostly of a dark colour—black or bronzed. One of the most interesting genera is the *Necrophorus*, or burying-beetle, so named from its habit of excavating the ground beneath the dead bodies of small quadrupeds, such as mice or moles; when they have interred the they deposit their eggs in it, and the larvæ whe feed upon the flesh.

5. The PALPICORNES also possess antennæ wi like termination; but these are never longer, a shorter, than one of the pairs of palpi. Ne these are aquatic, and have their legs formed ming. The most remarkable genus is the *Hydr* which a large species, *H. piceus*, an inch and a oval, of a brown-black colour, and highly p common in the ponds and ditches of this co swims and flies well, but walks badly. The laid in a sort of cocoon spun by the female with a gummy matter which is impervious to on which it floats. The larvæ, which have a body, with six feet, the head armed with str dibles, are very voracious, feeding upon tad the young fry in fish-ponds, and upon small f Mollusca.

6. The last family of the Pentamerous s LAMELLICORNES, is of very great extent, and most striking of the whole Beetle tribe, in the size of the body, and the variety in the f head and thorax in the different sexes; and in those species which in their perfect state vegetable substances, in respect to the brilli metallic colours with which they are orname the majority of the other species, which sol composing vegetable matter, are of an unifo or black colour; though some are not infer liancy to the preceding. All have wings, and but slowly along the ground. None of them a Their food consists of dung, manure, tan, a larly (in some species) of the roots of whence these insects, especially in their l often occasion great loss to the cultivator. receives its name from the peculiar confo the antennæ, which terminate in a mass for three last joints; these are flattened into pl mellæ; and sometimes arranged like a fan or of a book, sometimes in the manner of a sometimes enclosing each other. The famil buted into two principal sections, the *Scarab Lucani*.

Of the *Scarabæi*, one subdivision, including beetle of the Egyptians, feed principally upo crements of various animals, and they enclose their eggs in balls of the same (whence they have been called Pilularii), which they roll along with their hind feet (several often being in company), until they reach the hole in which they are to be deposited. A most remarkably formed species is the *dynastes hercules*, a native of Brazil, which attains the length of five inches, and of which the male possesses an enormous horn projecting from the head, which is opposed by a corr

Ateuchus (Scara Egyptiorum

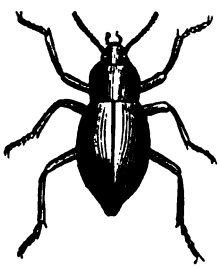
Dynastes Hercules.

protuberance from the thorax. To this group longs the *melolontha vulgaris*, or common co

destructive to vegetation both in its larva ndition, feeding on the roots in the one ıe leaves and young shoots in the other. es for three or four years beneath the ing lethargic in winter but actively vora- ıner. Their excessive multiplication is ıted by birds; but if these be kept away, very rapidly, and become a complete pest or. The perfect insect sometimes makes in such swarms as to devastate an entire

or *Stag-Beetles* derive their common name uliar form of the mandibles, which are rved, and toothed, like stag-horns. The ıe of the largest British insects, the males ıes or more in length. This species flies evening in the middle of the summer, nd the oaks, upon the wood of which the emaining in that state for several years going its final transformation. Some of ecies of this group are very large and oured.

Heteromera.—The Coleoptera of the ı entirely feed on vegetable substances; rrestrial, and most of them frequent dark ıe first family, the Melasoma, the body is ›wn or black colour, and for the most part absent, the elytra being united along the y live for the most part in the ground, :s, or in the sand—often, also, in low and buildings, such bles, &c. This ts is very tena- ndividuals have to remain alive ıs without food, a pin. To this the *blaps mor-* e often found in ty places about l the *tenebrio* hich the larva ler the name of m, living in corn nd the perfect nts bakehouses, corn-mills, &c., where it found in the evening.



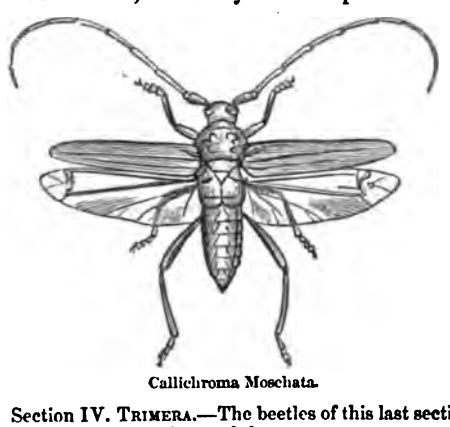
Blaps Mortisaga.

ily *Trachelides* the head is triangular or , and carried on a kind of neck, which from the thorax. The body is soft, the flexible, and sometimes very short. The in the perfect state upon different vege- ıring the leaves or sucking the honey of Many, when seized, depress the head and feet, as if they were dead. Their colours ·y brilliant. This is well seen in the *can- oria* or blistering-fly, which is of a shining ic hue; this insect is most abundant in ›pears about midsummer in France, and is bundantly on the ash and lilac, of which it ² leaves. Its larva lives in the earth, and ıe roots of vegetables.

I. Tetramera.—All the insects of this sec- vise vegetable-feeders. The perfect insect ›n the flowers and leaves of plants; the ten produced in their interior; and, when in the midst of their food, their legs are ery imperfect. Very often the true legs ıtirely absent, and their place supplied by les. The first family, that of Rhyncophoræ, *l* tribe, is distinguished by the prolongation or part of the head into a kind of muzzle. · of species in this family is very great; have been reckoned. Many of them are structive; especially the *calandra grana-* -weevil, which commits great havoc in To this tribe belongs one of the most all beetles, the *curculio imperialis*, well e diamond beetle, a native of South Ame- rica, in some parts of which it abounds. There are small species belonging to our own climate, which are scarcely less brilliant when magnified in a good light.

The second family of the Tetramerous Coleoptera has received the name of Xylophagi (Wood-eaters) on account of the peculiar habits of the beetles composing it. They usually live in wood, which their larvæ pierce in every direction; and, when abundant in forests, especially those of pines and firs, they destroy the trees in a few years, and sometimes in enormous numbers. They are destitute of the prolonged muzzle of the last order, and have short antennæ, thickened towards the tips. One of the most important species is the *bostrichus typographus*, so named from the figure of its burrows, which has at different times ravaged the forests of Germany. It devours the soft wood beneath the bark, which is most essential to the vegetative processes, both in the larva and perfect states, and thus causes the death of the tree. It was reckoned that a million and a half of pines were killed by this species alone in the Hartz forest, in 1783; and that as many as 80,000 insects were ordinarily engaged in the destruction of each tree.

The beetles of the family *Longicornes* are distinguished by the great development of the antennæ, which are always at least as long as the body, and often longer. The larvæ mostly reside in the interior of trees or under the bark, and are destitute of feet, or have them very small. They are furnished with robust mandibles, and do much injury to trees, especially those of large size, by burrowing deeply into them. They are vegetable-feeders in their perfect state also, and do great injury to plants, some attacking the leaves and others the roots. Many of them produce a slight creaking sound, by the friction of the joint which unites the thorax to the abdomen. Many of these are brilliantly coloured, especially the tropical species. Some of them are remarkable for exhaling an agreeable musky odour. This is the case with an English species, the *callichroma moschata*, which is about an inch long, entirely green or shaded with blue, and is very common upon willows.



Callichroma Moschata.

Section IV. Trimera.—The beetles of this last section are mostly of small size, and they are not very common. Their habits are various, a portion feeding upon fungi, and the remainder chiefly upon aphides. To the latter section belongs the genus *coccinella*, of which several species are known in this country under the name of lady-birds or lady-cows. They sometimes appear in great profusion, and have created much alarm. It is erroneous to suppose, however, that they do any injury to vegetation; for, on the contrary, they are of great benefit to plants by feeding on the aphides which infest them; and this they do both in the larva and perfect states.

Order II.—Orthoptera.

The order Orthoptera comprehends all insects that have the mouth armed with jaws fitted for mastication, and two pairs of wings; of which the anterior encase

the others, the posterior being membranous, and folding longitudinally during repose. In many respects they resemble the Coleoptera; and they are closely connected with that order by the Forficulidæ, or *Earwig* tribe, which partake of the characters of both. But they differ from the Beetles in the softer covering of their bodies; in the partially membranous character of the anterior pair of wings, which seem intermediate between the horny elytra of Beetles and the membranous wings of other insects, and which do not meet along the back when closed; and in the fan like manner in which the posterior wings are folded up beneath them, which is permitted by the straight direction of their veins. They differ also in their metamorphosis; for, whilst that of the Beetles is complete, that of the Orthoptera is only partially so; for the larva and pupa closely resemble the perfect insect in form, walking and feeding in the same manner, and differing in but little else than the absence of the wings and wing-covers, which are gradually developed in the latter.

This order comprises numerous well-known insects, often of large size and splendid colours; such as grasshoppers, locusts, walking-leaves, as well as cockroaches and earwigs. Some of the largest of known insects belong to it; a few species attaining a length of eight or nine inches, and an equal expansion of wings. Comparatively few of this order are inhabitants of temperate regions; it attains by far its greatest development, both in number, size, and colour, between the tropics. All the known Orthoptera are terrestrial, both in their perfect and two previous states. Some are purely carnivorous, and others are adapted to a mixed diet—the Cockroaches, for example, being capable of feeding on almost any organised matter, whilst the great majority feed upon plants. Hence, from their large size, and the quantity which each individual can devour, they are among the most destructive of all the insect tribes, when they appear in large numbers. This is particularly the case with the locusts in warm countries, the ravages of which not unfrequently cause famine and pestilence, both among men and beasts.

The Orthoptera are divided into two principal families. In the first, that of Cursoria, the legs are all alike, and adapted for running. They have generally the wing-covers and wings resting horizontally on the body. In the second, the *Saltatoria*, the thighs of the hind legs are much larger than the rest, by which they obtain great powers of leaping. In some of these, the wings meet at an angle when folded, like the two sides of a roof. The males have the power of making a sharp creaking noise, which is very loud in some species.

1. The Cursoria contain three well-known forms—the *Earwig*, *Cockroach*, and *Mantis*. Of these, the first approaches more closely than the rest to the Coleoptera; but have a peculiar character of their own in the forceps with which the posterior part of the body is provided; these are used as weapons of offence and defence. The *Blattæ*, or Cockroaches, are intermediate between them and other Orthoptera. These well-known insects are now pretty generally diffused over temperate climates, although most of the species are believed to have been originally natives of tropical regions. Their wings are small in proportion to the weight of their bodies; and in cold climates are seldom enough developed to lift them from the ground. The females are generally almost destitute of these organs.

The Mantidæ are purely carnivorous insects, of which none are natives of this country. They differ much from the Blattæ in the form of the body; which, instead of being flattened and oval, is narrow and elongated. The first pair of legs is enormously enlarged, and forms a very powerful organ of attack. They frequent trees and plants; and the forms and colours of their wings and bodies are often so adapted to those of the leaves and twigs which surround them, as to give them remarkable power of eluding observation. Hence these have been called walking-leaves. One species, the *mantis religiosa*, is regarded by the natives of the countries it inhabits with superstitious reverence, on account of its occasionally assuming the a prayer. This is, however, the position in wh in wait for its prey; the front of the thorax vated, and the two fore-legs held up toget pair of arms, prepared to seize any animal fall within their reach. They are extremely insects; and, if kept together without food, the victor devouring its conquered adversary.

Mantis Religiosa.

2. The family Saltatoria consists of numerou allied to the well-known *Crickets*, *Grasshoppers* &c. Besides the peculiarities already mentio are remarkable for the deposition of their eg ground, which is generally accomplished by m long horny ovipositor. The mode in which t is produced varies in different species.

The first division of the Saltatoria, termed includes the species known as *Crickets*. T essentially inhabitants of the ground, in whic them burrow; few have any power of active fl greater number of them, like the common hous are nocturnal.

The next subdivision of the Saltatoria, the is distinguished by the roof-like position of covers, when they are closed; they also po long thread-like antennæ. This group co *Grasshoppers* and their allies, which, althoug a general resemblance to locusts, differ from the inferior robustness of the body and th and slenderness of the appendages.

The last section consists of the various migratory locusts, forming the tribe *Locustid* are formed for a more active life than the being able to leap much farther, and to sustai flight. Their powers of devastation, also, are for they are produced in vast numbers, and cieties, so as speedily to destroy the vegetat spot on which they have settled. Thence their flight in great swarms to adjoining dist so great is the number of which these swarm that it is not speaking figuratively to say th is darkened by their passage.

Order III.—Neuroptera.

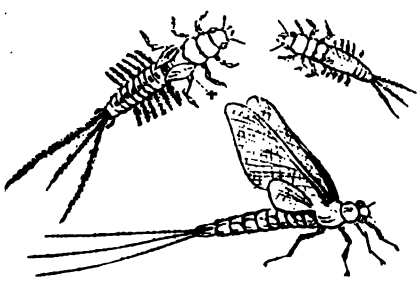
The Neuroptera resemble the Coleoptera a tera in the structure of the mouth, but differ in the conformation of the wings. The anter as the posterior pair are here membranous parent. In both, the veins form a very bea minute network, subdividing and uniting a to divide the whole surface into a large numb which very much exceed in number those of of any other tribe of insects. The posterior usually as large as the superior, or sometimes larger; if narrower, they are generally long

The body of the insects of this tribe, whic the well-known Dragon-flies, May-flies, and White Ants or Termites, is generally soft destitute of any very hard tegumentary

mediate size, none exceeding in dimensions the
st dragon-flies of this country, and none exhibiting
slenderness of some Hymenoptera and Coleoptera.
differ in the character of their metamorphosis as
ss in their adult structure; for in some the meta-
hosis is complete, the larva undergoing a marked
ge of form; in others there is not much difference,
t in the absence of wings, between the larva and
erfect insect. By these differences the order may
bdivided into two groups, in the first of which the
is active, whilst in the second it is quiescent, ex-
just before the assumption of the perfect state.
first of these groups may be farther divided into
which have terrestrial larvæ, such as the *Ter-
æ*, and those which are aquatic in their prepara-
states, such as the *Libellulidæ*, or Dragon-flies,
the *Ephemeræ*, or Day-flies. These pass the first
stages of their lives in water, respiring by means
culiar organs placed at the sides or extremity of
bdomen. In other respects their larvæ and pupæ
resemble the perfect insect. They creep out of
ater to undergo the final metamorphosis.

The Libellulidæ are well-known insects, being
distinguished by the slender form of their bodies,
varied colours, their large gauze-like wings, and
apidity of flight with which they pursue other in-
upon which they feed. They have a large head,
unded form, furnished at its sides with two very
eyes. The eggs are deposited upon aquatic plants,
the larvæ are produced in water, in which they
in until their last metamorphosis.

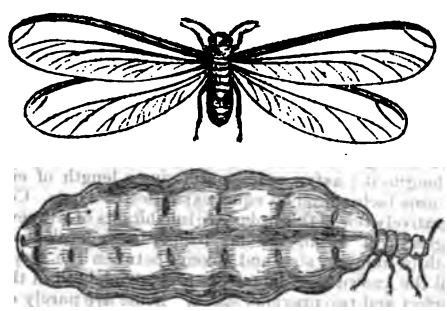
The Ephemeridæ derive their name from the short
tion of their lives in the perfect state. In the larva



Ephemera Vulgata—Larva, Pupa, and Imago.

tion they exist for two or three years; in this and
upa state they reside in the water, burrowing in
anks. In this condition, the abdomen is furnished
ch side with a row of plates, which appear to serve
ls for respiration, and also to act as paddles. The
differs from the larva in possessing rudiments of
, which are covered over with scales. At the
nt of their last change they quit the water, and
r, after casting their skin, in a new form; but, by
ular exception to what is elsewhere observed, they
to undergo another moult before they are fit for
agation. They generally appear at sunset in the
lays of summer and autumn, along the margin of
treams, &c., in which they have been developed.
take no food after their final change; and as the
agation of the race is then their only object, they
lmost as soon as it has been performed, often in a
ours after their exit from the water.

The Termitidæ, or White Ants, are terrestrial,
, and carnivorous or omnivorous, in all their
s. In several points of their structure they ap-
ch the Orthoptera; whilst in their habit of living
cieties they resemble the Hymenoptera. Unlike
ocial tribes among the former, however, the neuters
xless individuals in these communities officiate only
oldiers; and those which are here denominated
ers are in reality the larvæ, which closely resemble
erfect insect, except in the absence of wings. These
ts commit the most extraordinary ravages, the
numbers in each colony being almost incalculable, and
their voracity extreme. Their nests are sometimes
concealed below the surface of the earth, or in the in-
terior of trees, timbers, &c.; and through these they
bore galleries in such a manner, that, though the outer
surface is left untouched, they fall to pieces on the
slightest violence. Sometimes the nests are elevated to
several feet above the surface of the ground, and have
a pyramidal roof. When arrived at their perfect state,
the Termites quit their habitation, and fly abroad during
the evening or night in great numbers; they lose their
wings before the morning, and some of them, falling to
the ground, become the prey of birds, reptiles, &c.
The females, however, are sought by the workers, who
imprison them in royal chambers (as they have been



Queen in the winged state, and when filled with eggs.

termed) in the centre of the nest. The abdomen sub-
sequently attains an enormous size from the quantity
of eggs it contains; and these, when laid, are carefully
tended by the workers and defended by the soldiers.

4. Of the division of Neuroptera, in which a more
complete metamorphosis occurs, the family of Myrme-
leonidæ is one of the most remarkable. Their larvæ
have received, from their peculiar habits, the name of
ant-lions; they excavate conical pit-falls in fine sand,
and bury themselves at the bottom, their long mandibles
only appearing above the surface; and by these any
luckless insect that happens to fall down the hole is im-
mediately seized and killed.

The remaining families of this order need not be here
particularised.

Order IV.—Hymenoptera.

In the membranous character of their four wings,
the insects of this order resemble the Neuroptera; but
they cannot well be mistaken for them. The anterior
wings are usually much larger than the posterior; the
veins or nervures are much fewer in number than in
the Neuroptera, and do not form a close network by
their ramifications, as in that order. In some of the
minute species the wings are almost, or even entirely,
destitute of nerves. Another character furnished by
the wings consists in the connexion of the anterior and
posterior during flight, by means of a series of minute
hooks along the front edge of the latter, which catch the
hinder margin of the former, so as to produce one con-
tinuous margin on each side.

The principal character of this order, however, is
derived from the structure of the mouth; for, although
considered as mandibulate insects, the Hymenoptera
are much better fitted for imbibing their nourishment
by suction than for obtaining it by mastication, their
maxillæ being much prolonged and channelled, and
even uniting at their base into a tube, so as to form a
kind of proboscis. This is well seen in the bee. The
Hymenoptera are also peculiarly distinguished by a
prolongation of the last segment of the body in the
females, into an organ which is in one division of the
order a *sting*, and in the other an *ovipositor*, or instru-
ment for depositing the eggs, usually possessing the
power of boring a hollow for their reception.

The Hymenoptera are further remarkable for the

great development of their instinctive faculties and of their locomotive powers. It is in this order that we find the most remarkable examples of contrivance, and skilful adaptation of means to ends; but this adaptation results, it would appear, not from an exercise of *intelligence* on the part of the animals themselves (as in man and the higher Vertebrata), but from their blindly following out a plan laid down for them by the Almighty Designer. This inference may be deduced from the *invariability* of the operations performed by different individuals among the same species, so that a history of the life of one is equally applicable to all. The adjustment of instinctive actions to each other is nowhere more remarkable than in the case of the *social* insects, which are chiefly restricted to this order. The Bees, the Wasps, the Ants, the Saw-Flies, the Ichneumons, and the Gall-Flies, have attracted the attention of the observer of nature from the earliest period.

The insects of this order undergo a complete metamorphosis, the larvæ being amongst the most imperfect of those of any tribe. In the greater proportion of the order they are destitute of feet, and resemble little worms. These are dependent upon the instinctive care of the parent for support; which is either provided for by the deposition of the eggs in situations where the future grub will be certain of an ample supply of food, or by the active exertions of the parents, which convey to the young the food they have themselves collected for them, or by similar exertions on the part of a race destitute of peculiar sex (hence termed *neuters*), on whom this charge more especially devolves. When arrived at their full growth, and after undergoing several previous moultings, the larvæ are transformed into inactive pupæ, in which all the limbs of the future insect are visible, encased in distinct sheaths, and folded on the under surface of the thorax. During this part of their existence they take no food. In their perfect state, these insects, for the most part, take but little nourishment; and this almost exclusively consists of the nectar of flowers. Many of them, however, such as the Wasps, attack and destroy other insects; but these are often destined, not for their own support, but for the nourishment of the young. This order is of considerable extent, being inferior only to the Coleoptera; and it has been estimated as containing one-fourth of the whole insect population. It attains its greatest development in warm climates; for of the numerous species inhabiting this country, the greater part are of very small size. None of the species, however, attain any great dimensions; very few exceeding or attaining two inches in length, or three in the expansion of the wings. The duration of their lives, from the hatching of the egg to the final change, is believed never to exceed a year.

This order may be primarily divided into two sections, the TEREBRANTIA, in which the female is furnished with a saw or borer for the deposition of the eggs; and the ACULEATA, in which the abdomen of the females (and neuters) is armed with a sting connected with a poison reservoir. In the former, the antennæ vary considerably in the number of their joints; in the latter, there are always twelve in the female and thirteen in the male. The Terebrantia may be again divided into the PHYTIPHAGA, in which the larvæ feed upon vegetable matter; and the ENTOMOPHAGA, in which they in general feed parasitically upon living insects. The Aculeata are in like manner divided into the PREDONES, or predaceous tribes, which do not collect pollen, and in which the larvæ feed upon other insects stored up for them, or upon fluids provided by the neuters; and the MELLIFERA, in which the larvæ feed upon honey or pollen-paste stored up for them. The adult forms of all these are distinguished by certain technical peculiarities, which it would be tedious here to specify.

Section I. TEREBRANTIA.—The principal family of the Phytophagous Terebrantia is that of TENTHREDINIDÆ, or *Saw-Flies*, so named from the saw-like character and action of the ovipositor. With this instrument, they *make a succession* of small holes in the branches or *other parts of trees*, in each of which an egg and a drop of frothy fluid are discharged, the latter of which the hole.

The family of CYNIPIDÆ, or *Gall-Flies*, place count of its structure in the Entomophagous di the Terebrantia, is nearly allied in habits to som the last group. The ovipositor does not seem of boring a hole by itself; but, being armed w at its extremity, it can enlarge slits already for the deposition of its eggs. The fluid accu in the wounded parts forms excrescences or which are commonly termed *galls*, *nut-galls*, *apples*. Their form and solidity vary acco the parts of the plants which have been attac the species of the insect, of which each is n to a particular kind of plant.

Pimpla Manifestor engaged in oviposition.

The family of ICHNEUMONIDÆ may be rega peculiarly characteristic of the entomophagous The female deposits her eggs, by means of her pointed ovipositor, only in the bodies of other chiefly the larvæ of caterpillars, on which the may feed when hatched. Some of them have long ovipositor, which is used to insert the eggs bodies of caterpillars that live beneath the bar the crevices of trees; whilst those which have strument short, place their eggs in or upon the of caterpillars or pupæ to which they can obtain access. They do not confine themselves to thes tions, however; but employ for the same purp eggs or pupæ, still preferring the larvæ when t find them. The young Ichneumons, when hatc footless grubs, sometimes in considerable num the body of one larva, devour only the fatty which are not absolutely necessary to life; bu ready to undergo their metamorphosis, they pierce through the skin and escape, or else ki victim, and perform their changes within its bo

Section II. ACULEATA.—The Hymenoptera division may usually be distinguished from th brantia by the mode in which the abdomen is to the thorax. In the *Horers*, it is in general jointed to it—a structure which is evidently ne for providing the ovipositor with the requisite st whilst in the stinging Hymenoptera, it is usua nected by means of a peduncle or footstalk, v often, as in some of the Wasp tribe, of great len extremely slender. The predaceous division section contains several families, of which the portant only will be noticed in detail.

The CRABRONIDÆ, LARRIDÆ, BEMBECIDÆ, SP SCOLIDÆ, and MUTILLIDÆ, may all be considere one general description. They form a group may be termed that of *Fossores* or Diggers, fr peculiar habits; and they are commonly kn *Sand* and *Wood Wasps*. They are solitary in th of life, and consequently no neuters exist amo In general, the females excavate cells in the or in posts, timbers, &c., in which they deposit, with their eggs, various larvæ, or perfect ins

ILATA.

(whose habits resemble those of the Formicæ, their general structure is more conformable to the Social Wasps) among whom no neuters exist. ts of the solitary species are formed of earth; sometimes concealed in holes of walls, in the or old wood, and sometimes they are fixed to The parents store them with caterpillars or which they have previously wounded with their These nests contain a succession of cells, in each a single egg is deposited.

west-known of the Social Wasps, such as the com- cies of this country, construct their nests with wood, bark, &c., which they separate with their nd reduce to a pulp; and this, when expanded ed, forms a paper-like substance. With this t layers of hexagonal cells, one row being joined nder side of another. The top row is attached, species, merely to the under side of a branch, e top of a slight hollow, by which it may be in egree protected; but in others the whole comb oped in a covering, formed by several layers of e paper-like substance, with one or more aper- Wasps feed, in their perfect state, upon insects, uit, &c., and nourish their young with the juices substances. A Brazilian species stores up an at provision of honey.

Hymenoptera belonging to the *mellifera* or ollecting division of the Aculeata, are known by ibar conformation of the hind feet, of which the nt is compressed and extended into the form of e plate, and provided on its inside with brush- s; these organs are employed for the purpose cting and carrying the pollen of flowers, which yed for the nourishment of the young. All of ects are commonly known by the name of Bees; tribe contains two families; in one of which all cies are solitary, and are of only two kinds— nd females; whilst the others mostly live in s, but are chiefly distinguished from the former in peculiarities in the structure of the mouth.

e solitary Bees which construct nests for them- there are many curious varieties, some of which r the names of Mason, Carpenter, and Uphol- Bees, from the material with which they work— agglutinating bits of sand or gravel, the next ing wood by means of their powerful jaws, and constructing their cells of portions of leaves. bits of all of these may be studied in detail with interest.

e social species there are two principal groups, mble-Bees, or Wild-Bees, and the Hive-Bees. mmon Humble-Bees of this country live in curious round habitations, in societies usually of fifty or at sometimes of 200 or 300 individuals.

Queen Bee.

Drone.

n the Hive-Bees that the arts of construction are d in the most elaborate degree. Their societies of but one female, com- ermed the queen, seve- ndred males, which are as drones, and about thousand working bees ers. It is by the latter the labours of the hive, struction of the combs, lection of food, both honey for the adults and or the larvæ, and the nourishment of the grubs, formed. The accompanying figures, selected from s sizes and species of these three orders. The

Neuter Bee.

wax of which the comb is constructed is secreted by the insects themselves, in little scales, which work out from between the segments of the abdomen. These are taken up and kneaded by the jaws, and applied in the proper place. The drones are killed at the end of the summer; but the queen and great part of the workers remain; and when, in the summer, they increase so much as to over-people the hive, colonies are sent forth with young queens, in search of another habitation.

Order V.—Homoptera.

The insects contained in this order present many curious anomalies of structure and habit, and depart more widely from the general type than is the case in almost any other division of the class. Hence it is difficult to assign any general characters which shall include them all. It is in the structure of the mouth that there is the greatest agreement. This is adapted for suction, the tongue being elongated and channelled into a gutter, and being surrounded by delicate lancet-like organs which pierce the tissues of plants. All the insects of this group subsist on vegetable juices; and some of them, from the amount of damage they commit, are very injurious to the cultivator. Some of the females are furnished with an ovipositor, provided with several toothed saws; and with this they make incisions into the leaves or stems of plants, into which they introduce their eggs. The anterior pair of wings is usually similar to the posterior in consistence, both being composed of a firm membrane: that which chiefly distinguishes the Homoptera, however, from the Heteroptera, is, that the substance of the anterior pair, whatever be its nature, is the same throughout, and that, when folded, they are roof-like.

This order may be divided, like the Coleoptera, into sections, according to the number of joints in the tarsi. These sections are only three in number; in the first, TRIMERA, the tarsi are three-jointed; in the second, DIMERA, they are but two-jointed; and in the third, MONOMERA, they have but one joint.

Section I. TRIMERA.—The three-jointed division of the Homoptera includes three families, of which two, the CICADIDÆ and FULGORIDÆ, are very interesting. The CICADIDÆ are the largest of the order; one species measuring between six and seven inches in the expanse of its wings. Their peculiar characteristic consists in their musical powers. By a peculiar apparatus situated beneath the abdomen, they are enabled to produce a continued sound, nearly monotonous, but of considerable power. In some species the sound is so loud and shrill, as to be heard at the distance of a mile.

The family of CERCOPIDÆ, also belonging to this section, consists of insects of small size, but which are remarkable for the grotesqueness of the forms which many of them assume; some inhabit this country, and are known by the name of cuckoo-spits and frog-hoppers; but the most singular species are confined to the tropics. The curious appendages represented in the

Bocydium Globulare. Bocydium Cruciatum.

accompanying figures of a Brazilian species, result from an extraordinary development of the first segment of the thorax. The insects of this family are often beautifully varied in their colours; they are constantly found amongst plants, and on trees, upon the juices of which they subsist, in all their stages. Of the best-known *species of this country*, the larva and pupa invest themselves with a frothy secretion, whence the vulgar name *is derived. Some* of this tribe are employed by certain

species of ants for the same purposes as th
having the power of supplying them with a
fluid.

The FULGORIDÆ are destitute of the power
ing sound, but are distinguished by a curious
tion of the forehead, which sometimes equa
of the body in size. The shape of this projec

Fulgora Laternaria.

extremely in the various species, which are v
rous. It is in it that the luminous proper
lantern-fly is said to exist; but the luminou
insect, of which one species is a native of
Guiana, whilst another inhabits China, is d
many naturalists. If it really exists, it prob
shows itself at particular seasons.

Section II. DIMERA.—Of the Dimerous He
the most remarkable family is that of Aph
monly known as *Plant Lice*, which is extremely
on account of the injuries committed by its
against almost every kind of vegetable. The
live in great numbers upon the surface of
and suck the juices by means of their probo
the young shoots, leaves, stems, and even roo
thus greatly weaken its vigour, and often dest
shoots and leaves; some species cause little
excrescences by the irritation they produce.
horn-like processes at the posterior part of th
saccharine secretion exudes, of which ants
fond; and it is either this fluid dropped on the
leaves, or the extravasated sap flowing from th
made by the insects, which is known under t
of honey-dew. In many of the species of this
large proportion of the individuals never acqu
in which case the pupa is not to be distinguis
the mature larva or imago states, whilst at cer
of the year, other individuals of the same sp
of both sexes acquire wings. The wingless
which may be seen in the spring and early sum
all females capable of producing fertile eggs,
these are reared the winged males and femal
are seen later in the season. Their rapidity of
tion is enormous, nine generations having been
within three months. The young are someti
duced alive, whilst in other cases (according
season and other circumstances) eggs are
Many of the *blights* so injurious to the gard
the agriculturist, consist really of Aphides,
from the minuteness of the insects themsel
often escape observation.

Section III. MONOMERA.—The third section
but one family, that of COCCIDÆ, sometime
Scale Insects. These, although ordinarily of v
size, are amongst the most injurious to veg
any tribe. Their powers of propagation are e
and when they once gain possession of a plant
tree, its death is almost certain, the minute s
larvæ rendering it impossible to exterminat
They furnish, however, some very important
The bodies of many species are very deeply
through their whole substance, and yield dye
value, the richness of which seems to depend
nature of the plant on which they feed. Th
employed by the ancients was a native of the
but that which furnishes the *cochineal* so high
at the present time, was originally confined to
where it feeds on the cacti; it has, however, be
duced, along with its proper food, into Spain an
and also into the hot-houses of this country.

Order VII.—Lepidoptera.

rder Lepidoptera, characterised, as formerly
y the downy covering of the wings (which is
d of minute scales, arranged with great regu-
on the membrane itself), contains some of the
utiful forms of the whole class, as well as some
great. The number of species it comprehends
ly as great as that of any other order except
ptera, and may probably rank as about one-
ne-sixth of the whole class.

insects of this order belong to the well-known
Butterflies and *Moths*; and there is so much
resemblance among them, that the difficulty of
g them is often considerable. The possession
upon the wings is not altogether peculiar to
r they are found on the wings and bodies of
ects. But it is only in these that the wings are
with such complete layers of them. The scales
ally of somewhat oval form, terminating at one
kind of stalk, by which they are attached
embrane of the wing; and on this they are
in rows, overlapping each other, like tiles on
they may be easily rubbed off with the finger;
bare membrane is left, which is then seen to
nd with the wings of other insects. The number
covering the wings of the silk-worm has been
d at about 400,000. It is entirely to the scales
colours of the wings are due; and sometimes
so brilliant, as to be almost painful to look
strong sunlight is reflected from the surface,
species the wings are partially, or even almost
destitute of scales.

pidoptera, in their perfect state, are formed to
rely upon fluid nutriment, which they suck up
s of a long trunk, which is usually coiled up
nder the head. This trunk is not an organ
r peculiar to them, however; for it is com-
out of the lower pair of jaws, or *maxillæ*, which
much prolonged: each is channelled on the
est the other, and furnished with very closely
along its whole edge; when the edges are
together, and the teeth lock into one another,
tube is formed by the junction of the channels
, and through this canal these beautiful insects
the juices of flowers. All the other parts of
h usually possessed by insects, may be detected
f the Lepidoptera, but in a different state of
ent. The antennæ are variable in size, and
composed of a great number of joints. The
usually large, and contain a considerable num-
ects.

urious phenomena of the metamorphosis are
d to our notice more remarkably, perhaps, in
r than in any other. All the beings commonly
Caterpillars, are the larvæ of Lepidoptera,
e produced from eggs of various forms and
markings (sometimes almost resembling Echini),
ave been deposited by the parent upon the
at are to serve as the food of the larvæ when

ree first segments of the body have each a pair
, short, and jointed feet, which are the rudi-
those of the perfect insect. Behind these are
e number of temporary appendages, called
which are thick, short, fleshy limbs, armed at
remity with a great number of minute hooks,
ished with powerful muscles. There are usually
of these—four of them succeeding the true
d another arising from the last segment of
. Those possessing pro-legs on nearly every
crawl upon all the feet at once, after the man-
the Myriapoda; but those which have only a
mber of pro-legs, adopt a different method.
e fast hold of the objects on which they are
with the six true legs at the fore part of the
d then elevate the intermediate segments into
until they bring the pro-legs behind close to the
they then disengage the true feet, and retain-

ing hold with the pro-legs, thrust the body to its full length, and then recommence the same manœuvre. These are called Loopers or Geometers. Many of them resemble, in their forms and colours, as well as in their mode of standing fixed for a great length of time by their hind legs only to twigs, small pieces of stick.

The greater number of caterpillars are vegetable feeders, and are mostly confined to the leaves; and the correspondence between the development of the leaves

Caterpillar and Chrysalis of the Magpie Moth.

and flowers of plants on the one hand, with that of the caterpillars and butterflies which are respectively to feed upon them, cannot but strike every one as a beautiful instance of creative foresight. But there are some caterpillars adapted to feed on flowers (such as come forth early in the year); and others attack seeds, roots, and even the woody portion of the stem. Moreover, there are a few which live in this state upon animal matter, such as wool, hides, leather, and fat. Many can digest a considerable variety of alimentary materials; whilst there are others that can only find support on some one kind, the leaves of some particular species of plant, for example.

The habits of Caterpillars are extremely various. Some burrow into the substance of leaves, in which they excavate galleries; others envelop themselves in the membrane of the leaf itself. Many construct cases or sheaths, either fixed or portable, by agglutinating various substances together; and there are some which live in societies, living together under a tent of silk which they spin in common, and which serves to defend them from the inclemency of the weather. They usually throw off their skin four times before undergoing the transformation into the chrysalis state. For this they prepare by spinning a *cocoon*, in which they are enclosed during the greater part of that epoch. Some construct this entirely of silk; others attach together portions of leaves or particles of earth by silken threads. These threads are formed by a glutinous secretion from glands which seem analogous to the salivary glands of other animals; and this being forced out through a small opening at the end of the lip, hardens as it dries in the air. There are some caterpillars which form no cocoon, but which are contented with suspending themselves by the attachment of the hinder part of the body to some solid support, or by a silken thread coiled around them. The *chrysalis* or nymph has the whole body enclosed in a tough envelope, under which, however, the form of the parts of the future insect may be discerned. At the moment of the final transformation, it discharges from its intestine a red liquid, which softens one end of the cocoon, and allows the exit of the moth. Generally one end of it is weaker, or even fitted by the arrangement of the threads for the escape of the insect.

The *Butterfly*, when it throws off its last envelope and comes forth into the air, of which it is henceforth to be one of the gayest inhabitants, is not altogether perfect, although capable of very soon becoming so. The wings appear at first very slightly developed, and hang loosely by the sides; and it is not until the animal has injected their tubes with air, by taking several full inspirations, that they become expanded so as to serve for flight. From that period, the body is by them during by far the greatest proporti active state.

The order of *Lepidoptera* is usually divided sections, which are different alike in their cu and habits. These are—1. The Diurna, or which may be at once recognised by the ver tion of the wings during repose; 2. The laria, or *Twilight-Moths*, commonly known *Moths*, in which the wings are horizontal in re the antennæ thick or club-shaped; 3. The or true *Moths*, whose wings are also horizon clined in repose, but whose antennæ are mor tapering gradually from the base to the point

Section I. Diurna.—The first section co with the Linnæan genus *Papilio*, which is a ever, very much subdivided. The Butterflies tinguished from other Lepidoptera by the le their colouring, and by the beauty of the und as of the upper side of the wings. Their ca have generally sixteen feet, and their pupæ a always destitute of any silken envelope, and are by the tail. The antennæ of Butterflies are knobbed at their extremities, sometimes of thickness throughout, and sometimes taper from base to point. This section may be div three families, according to peculiarities in t morphosis.

Section II. Crepuscularia.—The section c cularia, or *Hawk-Moths*, corresponds with the genus *Sphinx*, which derived its name from th attitudes (resembling that of the sculptured antiquity) into which the larva sometimes thr Although the Lepidoptera arranged under thi on account of their similarity of structure, a twilight-fliers, it is not the case with all; for some which come abroad in open daylight, the juices of flowers with their long trunks, sun is brightly illumining their wings. The are observed to be more brilliantly coloured rest. In most of the Sphinges the body and w a dull brownish-grey aspect, like that of mo whose habits are similar. The wings are mo in appearance than those of the Butterflies, scales did not lie so closely upon each other. T of the Crepuscularia have always sixteen feet, pupæ are either enclosed in a cocoon or ha selves in the earth. The Hawk-Moths ma humming noise in their flight.

One of the most remarkable of this gro death's-head moth (*acherontia atropos*), recogni

Acherontia Atropos.

skull-like patch on the back of the thorax. T a squeaking kind of sound, sometimes rather upon the mode in which it is produced ent are not agreed. In consequence of the pecul of its body, the sudden appearance of this inse numbers has been popularly regarded as o evil. It is a great enemy to bees, and enters t undefended, devouring the honey, and alar inhabitants so that they seem to keep aloof fr

Section III. Nocturna.—The group of noc pidoptera is by far the largest of the order. aspect, Moths and Sphinges are somewhat alik may be at once distinguished by the form of t which, in the latter, gradually taper from the point. Many of them have no distin

LATA.

ches or rays, of which each pair has from two
These are most beautifully fringed at their
d much resemble the feathers of birds. The
composed of the nerves, without any of the
erwening membrane, which seems to be trans-
into the fringe. These insects (commonly
y the name of Plumed Moths) are of small
ne of them are diurnal and brightly coloured;
e twilight fliers, and of a duller aspect. Some
are the power of folding up their wings, one
st another, somewhat like a fan; so that when
ey present the appearance of a single broad

Order VIII.—Diptera.

wo-Winged Insects constitute one of the most
e orders of the whole class, not only in regard
umber of distinct species, but also from the
of individuals of the same species. Many of
o, have been constant attendants upon man in
They do not attract attention from their size,
, for there are few that exceed an inch in
nor is it on account of their beauty, for the
of them are of dull colours; their forms, too,
ly elegant, and the transformations of many
own. They owe the notice they have attracted
their habits, and especially to those which
n and the domestic animals, both in their per-
arly states. However annoying these are, it
be forgotten that other Diptera are of extreme
by cleansing the surface of the earth of vege-
animal impurities; the carcass that is full of
would be much more prejudicial in its decom-
than if it were not principally eaten up by
acious creatures. The mouth of these insects
l only for imbibing fluid matter, and in many
furnished (as formerly stated) with lancets for
ng the flesh from which they suck the juices;
channels through which they draw the fluid,
e accessory organs, consisting only of the usual
the mouth, altered in form and arrange-

Diptera all undergo a complete metamorphosis,
s the structure of the larva is concerned;

antiomya Chamaleon—Larva, Pupa, and Imago.

ing generally cylindrical footless grubs, no re-
atives of legs being found except in a few species.
many there is no proper transformation into
state, the skin of the larva, which hardens,
s, and shortens, becoming, as it were, the cocoon
hrysalis. The body is detached from its interior,
the organs peculiar to the larva, such as the
the mouth, adherent to the inside of the skin.
afterwards, the enclosed being assumes the
a soft and gelatinous mass, without any of the
the future insect being visible; some days sub-
y, however, these organs become distinct, and
ct has then assumed the real state of pupa,
without having yet thrown off its larva skin.
eady to escape, it scales off the anterior end of
like a cap. Many larvæ, however, do throw

sections. In the first, NEMOCERA, the antennæ are composed of more than six joints; whilst in all the remainder, the antennæ are short, not having apparently more than three distinct joints. In the second, NOTACANTHA, the last division of the antennæ is really composed of two; the proboscis does not project much from the mouth, and is furnished with only two lancets. In the third, TANYSTOMA, the antennæ have really only three joints, the last being usually terminated by a *seta* or bustle. And in the fourth, the ATHERICERA, the antennæ are only two or three jointed, and the proboscis is withdrawn into the mouth.

Section I. NEMOCERA.—To the Nemocera belong the two families of CULICIDÆ and TIPULIDÆ; the former known as the *Gnat* tribe, the latter as the *Harry-long-legs*. The former are distinguished by their beautifully tufted antennæ. Gnats are well known to abound chiefly in damp situations; the reason being that their larvæ are inhabitants of the water. In this state they are very active, swimming with great agility, and often descending, but coming to the surface to breathe, which they do head downwards, the respiratory orifice being at the end of the tail. When the final transformation occurs, the skin of the pupa, which is being cast, serves as a kind of raft, which prevents the perfect insect from being immersed in water. The mosquitoes which infest many countries, especially in warm latitudes, differ but little from the common gnats. They sometimes appear in such swarms, especially in marshy districts, as to be kept off only by fire.

Section II. NOTACANTHA.—The second section of the Diptera contains three families, STRATIOMIDÆ, BERIDÆ, and CŒNOMYIDÆ, which do not attract much attention, although some of the insects contained in them are very abundant. They are mostly small, but gaily-coloured insects, and are most numerous in moist situations, in which the larvæ are generally produced. They mostly feed upon vegetable rather than animal juices.

Section III. TANYSTOMA.—The insects composing the third division have usually a more perfect mouth than those of the other sections; and they are also remarkable for the structure of the head of the larvæ, which possess two claw-like appendages, by which they

nous to this country, and there are prob
as many more which have not been desc
strong general resemblance which exists a
species, makes it very difficult (especially
small size is considered) to discriminate t
The larvæ of these insects, commonly know
are soft, vermiform, footless grubs, posse
head a couple of retractile hooks, by whi
cling to the substances on which they feed
your various substances, both animal an
living, recently-dead, or far advanced in
The eggs are deposited by the female,
instances, in the neighbourhood, or in th
stance, of the food which is adapted for th
the larva, however little to its own liking.

The ŒSTRIDÆ, or *Bot-Flies*, are a family
able in regard to their structure and habit
fect insects resemble large meat-flies in fo
hairy, and generally have these hairs colou
like humble-bees; but they are seldom see
tion of their lives being very short in thi
Their chief peculiarity consists in the ab
proper mouth in the imago (in which resp
an analogy with the Strepsiptera), and in
habitation of the larva. This is always fo
animals; its situation, however, varying w
cies, of which almost every herbiverous mam
or more peculiar to it. The egg is deposi
in situations where the larva may burrow i
where it occasions inflammatory tumour
contained in which afford it nourishment
cases, the eggs or larvæ, existing upon spo
animal is in the habit of licking, are conv
tongue into the mouth, whence they pass i
mach. There they remain until full-grow
they quit the body (as do also those that
flesh) and fall to the ground, beneath th
which they undergo their transformations.
of one species, which inhabits the sheep,
the cavities in front of the bones of the skul
parts of the nose. Man is subject to the a
or more species, which do not, however
country.

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order, but it is even difficult to assign their pro-
ce in the class. As they possess less of general
t than of curiosity to the scientific naturalist,
need not here be treated of.

WINGLESS INSECTS.

des the foregoing orders, which constitute the
sects, three others must be included in the class,
unt of the correspondence in their general struc-
although they present only one or neither of the
aracters which have been stated to distinguish
presence of wings in the perfect state, and the
orphosis. These three orders are, the APHANIP-
R *Flea* tribe, which have the rudiments of wings,
dergo a metamorphosis; the PARASITA, or *Louse*
hich is entirely destitute of wings, and under-
metamorphosis, but agrees with the true insects
ng only six legs; and the THYSANURA, including
ring-tails, in which there are appendages to the
en, representing the legs of the posterior seg-
so that these may be regarded as approaching
riapoda.

Order XI.—Aphaniptera.

order contains only one family, the PULICIDÆ,
tribe, all of which are insects of minute size,
e the Diptera (to which they are perhaps most
allied), of suctorial habits. Their larvæ come
om the egg in the form of minute worms, pos-
considerable activity, and feeding upon animal
a provision of which seems to be formed for
y the parent. They afterwards enclose them-
in a small cocoon of silk, which is often covered
ust, and in this they undergo their change into
a state. In their perfect state, the rudiments
wings are visible, in the form of little scales,
d to the second and third segments of the body,
h there is no proper distinction of thorax and
n.

Order XII.—Parasita.

insects of this order, the *Louse* and its allies,
arded with the greatest disgust by the common
of civilised man, because their presence is the
an indication of a gross want of cleanliness of
Most of the lower animals, however, are in-
with one or more species, from the attacks of
they are not able to defend themselves; and
subject to a peculiar disease which seems very
o favour their production. Their generations
l each other very rapidly. The Parasita are
entirely destitute of eyes.

Order XIII.—Thysanura.

e insects of this order there is a remarkable
y of structure, especially in regard to the mouth.
them possess as complex an oral apparatus as

the mandibulate insects, whilst in others there is scarcely a perceptible opening. The same is the case with regard to the eyes; these organs being fully developed in some, and almost rudimentary in others. The order contains two families. In the first, the LEPISMIDÆ, the abdomen is furnished on each side with a row of moveable appendages, like false legs, and is terminated by long jointed bristles, of which three are more remarkable. These little insects leap very well; some frequent stony places, whilst another is found in sugar, and is known as the *sugar louse*. In the PODURIDÆ, the appendages to the sides of the abdomen are wanting; but the extremity of it is prolonged into a forked tail, by which these insects can execute very surprising leaps; this, when in inaction, is applied against the belly. From this conformation they are popularly known under the name of *Spring-tails*.

Podura Villosa.

CLASS VII.—ARACHNIDA.

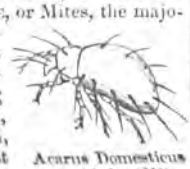
The class of Arachnida, including the *Spiders* and their allies, was for a long time confounded with that of Insects, and has been only recently separated. The characters which they present are perfectly distinct from those either of Insects on the one hand or of Crustacea on the other; nevertheless they present numerous relations with both those groups.

The Arachnida may be distinguished from Insects by the absence of any division between the head and thorax; and the compound mass thus formed is termed the cephalo-thorax. Again, Insects in their mature state are always provided with six legs and no more; the Arachnida have eight of these members. Moreover, the eyes are not compound, but more resemble those of higher animals. From Crustacea they are separated by the softness of their bodies (in which respect, however, they are approached by certain Macrourous Decapods termed Spider-Crabs), but still more completely by their exclusively atmospheric respiration. The organs by which this function is performed vary in different tribes. In the *Acari*, or Mites, and their allies, they resemble the tracheæ of insects, and are distributed through the body, whilst in the Spiders, Scorpions, &c., they consist of rounded cavities, or air-sacs, into which the air is admitted by spiracles situated on the abdomen, and which are lined by a membrane plaited into numerous folds, which resemble gills, and lie in apposition like the leaves of a book. On this character is founded the subdivision of the class into *pulmonary* and *tracheary* Arachnida.

The majority of the Arachnida feed upon insects, which they seize alive, or upon which they fix themselves, and from which they suck the juices. Others live as parasites upon the bodies of vertebrated animals. There are some, however, which are only found in flour, cheese, and upon various vegetables. These last, which mostly belong to the tracheary order, exhibit an affinity to Insects not only in their structure but in their metamorphosis; for they undergo great changes after they come out of the egg, an additional pair of legs being often developed; whilst in the others nothing else than a moult or casting of the skin occurs.

Order I.—Trachearia.

The Trachearia, being the most nearly allied to Insects, are naturally the first to be considered. This order contains several remarkable forms, of which the one best known is that of ACARIDÆ, or Mites, the majority of the species of which, however, are very minute, or almost microscopical. They are very extensively distributed; some being inhabitants under stones, leaves, bark of trees, in the ground, upon articles of food; whilst others subsist as parasites upon the skin and in the flesh of different animals, greatly weakening them by their excessive multiplication. There are some species which infest, especially the carrion beetles. Some of this order resemble spiders in form and habits.



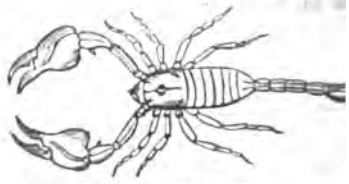
Acarus Domesticus magnified. (Mite.)

Besides the *Acari*, which form the principal part of this order, there is a curious group, which bears the name of *Pseudo-Scorpions*, owing to their possession of a pair of large claws terminating in forceps, like those of the true scorpions, are formed by the excessive development of the organs which in insects are termed palpi. There is also a very small family, which some naturalists have separated as a distinct order, the *Pycnogonides*; these are distinguished by the absence of all special respiratory organs, and their aquatic habits bear a strong resemblance to the Crustacea. They are found amongst marine plants and under stones on the beach. Their motions are remarkably slow; and they are said to live chiefly upon the animals of Bivalve Mollusca.

Order II.—Pulmonaria.

In this order, the respiration is performed by means of air-sacs contained on the under side of the body, and opening externally by stigmata; sometimes these structures are eight in number, four on each side, sometimes four, or even only two. This diminution appears to indicate a gradual elevation in the characters of the apparatus; leading us from the diffused condition in which it exists in Insects, to the more concentrated form it presents in higher animals. The Pulmonaria possess eight breathing-pores; and thus approach more to the Tracheary Arachnida than do the Spiders, which offer themselves next, therefore, to our consideration.

The family of PEDIPALPI is distinguished from the Araneidæ principally by the great development of the palpi, which form extended arms, terminating in a forceps or claw. The entire body is clothed with a tough skin. In the *Scorpions*, which constitute the principal part of this family, the abdomen is very much elongated, forming a sort of tail, which is terminated by a sting, and furnished with a venomous secretion. The



Scorpio Occitanus.

this sting, although very painful, does not prove ordinarily dangerous. A small species is found in this country; but it is between the tropics that the Scorpions attain their greatest development. They live chiefly on the ground, hiding themselves under stones, the loose bark of trees, dead bodies, among ruins, where such exist, and in other cool places generally, even the interior of houses. They run quickly, and curve the tail over the back, so that they can turn it as an arm of offence or defence.

Besides the Scorpions, there is included in this order the tribe of *Tarantula** Spiders, which are intermediate in several respects to the Scorpions and the true Spiders.

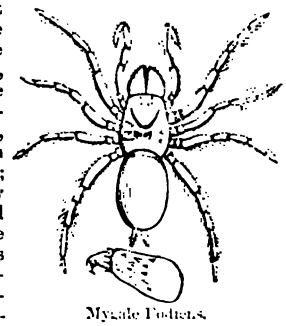
The other family of the pulmonary Arachnida consists only of the Spiders, of various kinds, and is designated ARANEIDÆ. In these, the palpi are not developed to any thing like the same degree as in the preceding tribe; they rather resemble feet; but the jaws are furnished with sharp and hooked fangs, and are perforated at their points, for the emission of a poisonous fluid, provided for the destruction of their prey. Several of them are provided with organs, situated at the hinder part of the body, for spinning a very delicate

* These are not the animals known in the south of Europe by the name of Tarentula, receiving their designation from the city of Tarentum; the latter are true Spiders.

it the use to which it is to be applied varies in pecies. In some it forms webs in which are the insects on which they feed; in others, it d to make a delicate silken tube, which lines tation; and in others, it is chiefly used for ation of a sort of cocoon with which the eggs nded. The instruments by which this thread d are little teat-like protuberances, termed , of which four usually exist at the posterior of the abdomen. Each of these, when highly , is found to be perforated at its extremity by ole orifices of extreme minuteness, through rced out a glutinous fluid, secreted by glands his fluid soon hardens by exposure to the air; each thread, delicate as it may seem, is com- veral hundreds, of extreme minuteness, coiled o that it possesses great strength in proportion neter.

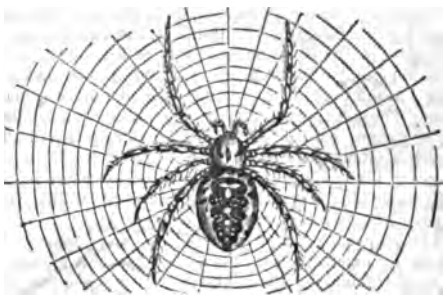
iders are all extremely voracious in their ding only upon prey which they have them- ed. When they have got an insect between s, either by entrapping it in their web or by thy mode of pursuit, they plunge their poisoned into its body, and the bite is usually soon metimes, however, the insect has strength resist its enemy, and to prevent the infliction d wound; and, as a prolonged struggle might jurious to the spider, on account of the soft- body, it generally retires from the contest if lily successful. Where its prey has been in its web, however, the spider still further : by a silken thread, and then retires until the lost its strength by ineffectual struggles, when patches its victim.

ning-Spiders, found in the South of Europe, in dry shelving situations exposed to the sun, can cylindrical galleries, often two feet deep, rtuous, that of them are se they line silken tube, t its entrance le lid, com- ik and earth, to the silken sort of hinge; s adapted, by ituation, and o close the precisely, as allow its en- be distin- om the neigh- oil. When the spider enters its retreat, or of it, the door shuts of itself. The Mygale rt of cocoon round its eggs, enclosing a hun- re; they are hatched within it, and the young heir first changes before quitting it.



Mygale Fodiens.

ho is remarkable for the curious habitation onstructs for its young. It spins a kind of coon or tent, which it attaches to the under es or to crevices in rocks by seven or eight ving festoons between these, the edges of free. At first this consists of only two folds, are gradually added; and beneath them all peculiarly soft texture is constructed for the of the eggs. The young remain in this ter after they are hatched, and are supplied by with food. The *Argyroneta* forms a winter itself beneath the water. It spins an oval mber, open at the bottom like a diving-bell, attaches by cords to water-plants. It then wn successive bubbles of air beneath its body, g down their stems; and these bubbles it to its bell until it has filled it. It then takes de in this cell, where it remains for the winter, ng the mouth of the bell. The *Epeiræ* are most remarkable for the strength of their e of the exotic species, which are remarkable for the variety of their forms, colours, and habits, spinning nets which are sufficiently strong to catch small



Epeira Diadema.

birds, and even to annoy man when he happens to come in the way of many together.

CLASS VIII.—CRUSTACEA.

The animals composing this group may be regarded as representing in the sea the insects and spiders of the land. Indeed, they were associated with those classes by Linnæus, in his class of Insects. But they are separated from both by very important characters. Their chief distinction is in the breathing-apparatus, which is adapted to aquatic and not to aërial respiration. Instead of the system of branching tubes which we find in Insects, or the lung-like cavities which are a more concentrated form of the same structure in the Arachnida, the Crustacea are furnished with fringes of gills like those of the Mollusca or Fishes, into which the blood is sent, as it were, out of the body, to meet the small quantity of air contained in the surrounding water. In the highest order of this class, the gills do not hang loosely from the body, but are enclosed in a cavity, having two orifices, through one of which a constant stream of water is introduced, which is ejected through the other by a curious mechanical contrivance. And in a few species of this order, there is a special provision for keeping the gills moist when the animal leaves the water, out of which it can live for a considerable period. The best-known of these are the Land-Crabs of the West Indian Islands.

It is not only by their aquatic respiration, however, that the Crustacea are distinguished, but also by the calcareous nature of their integument. The shell, as it is commonly termed, is a secretion from the surface of the true skin, just as are the shells of Mollusca from their mantle. There is this important difference, however, between the two, that, whilst the latter is merely adapted to enclose loosely and to protect the general mass of the body, so that the locomotive appendages, when put in action, must be made to project beyond it, these being themselves unsupported by any hard skeleton, the former accurately fits not only the trunk but the extremities also, and, as in the other Articulata, is composed of a number of rings, more or less regular in form, and accurately jointed together by an intervening membrane.

As no addition to the edges of these rings would increase their diameter, some other means must be provided for enabling the size of the shell to keep pace with the increasing bulk of the body. This is effected by the periodical *exuviation*, or throwing off of the old shell, and the formation of a new one. This change is preceded by evident illness on the part of the animal, which retires to its hiding-place at the time. The part of the shell enclosing the trunk splits usually at its under part, in such a manner as to allow the body to escape; but the shell of the legs and claws remains entire, though the fleshy parts are entirely withdrawn from their interior. This is the more remarkable, as the bulk of the claw is much greater than the diameter of the joint through which it is thus made to pass; and

below that point, the animal itself effects the removal of the upper portion, either simply casting it off by violent muscular contraction, or striking it against some hard body. The same is the case when the claw has been accidentally lost in some other way; and, accordingly, it is by no means uncommon to witness a great disproportion in the size of the two members, one being much smaller than natural, from its having been only recently produced.

The number of legs possessed by the Crustacea is greater than that of perfect insects, being never less than four pairs, besides the pair of claws which may be considered as metamorphosed legs. It is in the crab, lobster, crayfish, &c., that we find this small number; and these belong to the highest order, the Decapoda, or ten-footed Crustacea. In front of these are some curious organs termed feet-jaws, being intermediate in structure between these two kinds of appendages; in some of the lower Crustacea these become true legs. And from the posterior part of the body there hang down certain appendages, which are also true legs in the lower orders. In fact, the lowest Crustacea approach very closely to the Myriapoda in their general form and structure, differing chiefly in their aquatic mode of life; the segments of the body are nearly equal, and are each furnished with a pair of legs. On the other hand, among the Decapods we find an approximation to the form both of insects and spiders—the lobster representing the one, and the crab the other. In the lobster we have a regular division into *head, thorax*, and *abdomen*, as in insects; and it is to the thorax alone that the locomotive appendages are attached, as in the perfect state of the insect. There is no rudiment, however, of wings. As in the insect, we find that, where the force is concentrated in one part of the body, and the general movement is effected chiefly by the members, the segments of that part are consolidated; and, accordingly, the thorax of the lobster seems, until carefully examined, as if composed of a single piece. The segments of the abdomen, however, are moveable on each other; and their motions assist in progression, the flattened tail serving as a fin by which the water is

a sucker. These two groups are precisely to those of Mandibulata and Haustellata amo The Edentata are divided into three orders, to the form of the extremities:

Araneiformes, in which the extremities ar long, and adapted for walking.

Syphonostomata, in which the extremitie adapted for walking, are partly formed into partly adapted for prehension.

Lernæiformes, in which the extremities little developed, and the body presents great form. Most of these are parasitic upon othe especially fishes, to which they cling by mean in which their rudimentary extremities term

The Maxillosa, containing by far the larg tion, as well as the most highly organised fo class, are again distributed into four section Dophthalmia, in which the eyes are mounted stalks, and are moveable. These have alm branchiæ, properly so called; their feet are bulatory, partly prehensile; and the thorax with a *carapace* or shield (like the upper sh turtles), which is formed by the great devel one of the rings, overlapping the rest. 2. Em mia, in which the eyes are *sessile*, or not mou pedicle. The branchiæ are not separate orga united with the extremities; these are almo seven on each side, and adapted for walking. no carapace. 3. Branchiopoda, in which the gills, but the anterior pairs of legs are flatt plates, which are subservient to respiration tomostraca, in which there are no branchiæ, parent organs to supply their place. The sessile, and commonly united into a single mas groups are again subdivided into nine order lows:—

1. The Podophthalmia consist of the Dec which there are five pairs of thoracic extrem which have the gills enclosed in a special re cavity; and the Stomapoda, which have six pairs of thoracic extremities and external bra

2. The Edriophthalmia contain three or

ÁTA.

y use for seizing their prey in the same man- Orthoptera among insects; so that these have the name of Sea Mantes. The accompanying ws one of the most characteristic forms of the hich is abundant in the Mediterranean. The there seen to be affixed, in separate tufts, to inal appendages.

Order III.—Amphipoda.

an extensive order, in regard both to the f species contained in it, and the amount of ls which are sometimes seen collected together. ter number of them are marine, but some are brooks and reservoirs; all, however, are more matic in their habits. They are of small size, and leap with agility. The best-known British the *Sand-hopper*, which burrows in the sand, , unlike the greater part of the order, seldom e water.

Order IV.—Læmodipoda.

small order, one of the esting and character- ies is the *Cyamus*, com- lled the Whale-Louse, infesting the Cetacea as a Sometimes these crea- so abundant on the sur- nales, that the individuals t may be recognised at a by the white colour these impart to them.

Cyamus Balænarum.

Order V.—Isopoda.

Crustacea not only resemble Myriapoda in form, but in many parts of their internal struc- he greater number live in water, but many uch as the common Wood-Louse, are inhabi- the land. Having no special apparatus, how- keeping the respiratory surface moist, they exist in damp places. The *Oniscus*, or Wood- esents dark and concealed places, such as ves, chinks in walls, or hollows under stones. upon decaying vegetable and animal matter, comes forth from its retreat in damp weather. power of rolling itself completely into a ball.

Order VI.—Cladocera.

rustacea composing this and the three follow- s are of very small size, so that the details of ucture can only be examined with the micro- They mostly inhabit fresh waters, and are in nstant motion. A characteristic example of r is the common *Daphnia Pulex*, or Water- ch may be found during the summer in almost nd, and is recognised by its very rapid and ovements, resembling the leaps of the animal ch it is named. These are principally exa- a pair of large branched antennæ, which serve

Order VII.—Phyllopoda.

order, which is characterised by the prolonged he body, and the flattening of the extremities apts them for swimming, belongs a large num- pecies, whose movements are generally very nd equable. The *Branchipus*, one of the most

Branchipus Stagnalis.

teristic examples, is found, often in great ers, in small puddles, and most abundantly heavy rain. The eggs are capable of being up without injury, and are hatched soon afte g moistened.

Order VIII.—Copepoda.

The animals of this and the next order are commonly termed *monoculous*, from the two eyes being united into one mass. In their general habits they agree with the former. The *Cyclops* is an interesting species, very common in the ponds and ditches of this country. The female has an oval sac on each side of the tail, in which the eggs are carried. She is able to produce ten broods in the course of three months, and as these are speedily able to reproduce themselves, it has been calculated that in a year, 4,442,189,120 young may be the progeny of one individual. The majority of the animals of this order swim with the back downwards, darting about with great agility, and moving backwards or forwards with equal ease. In the absence of animal matter, on which they usually feed, they attack vegetable substances.

Cyclops Vulgaris, magnified.

Order IX.—Ostrapoda.

In habit and general character, the animals of this order, of which the common *Cypris* of our ponds is an example, closely resemble those of the last, but their bodies are enveloped in a sort of bivalve shell. They swim, like the *Daphniæ*, by means of the prolonged antennæ, which spread at their extremities into tufts of filaments.

The animals of the division Edentata are nearly all parasitic. In their general organisation they are the most imperfect of all Crustacea, some of them approaching the higher Entozoa, whilst others have a resemblance to the lowest Arachnida. The various species of these orders, which need not be more minutely particularised, infest, more or less, almost all marine animals.

There now only remains the remarkable order *Xyphosura*, separated from all the rest by the absence of any special organs for conveying food into the mouth. It receives its name from the sword-like prolongation of the carapace, which is used as a weapon by the natives of the regions in which the animals exist. The *Limuli*, or King-Crabs as they are commonly termed, are peculiar to the East Indies (abounding in the neighbourhood of the Molluccas) and the coast of America. They sometimes attain the length of two feet. Their legs are very short, not extending beyond the margin of the shell. The anterior ones seem to assist in conveying food to the mouth; and the posterior are modified for respiration.

Limulus Polyphemus.

Near the *Limuli* should probably be placed the remarkable group of *Trilobites*, which are at present only

Asaphus Expansus.

Same rolled up.

fossil state, but which were very abundant in ...ds of the earth's history. There can be no ... the character of the animals with whose ... is found, that the Trilobite was an inhabitant of the water; and as its integument was ... hard and articulated, it must have been a Cr... animal.

CLASS IX.—MYRIAPODA.

The class Myriapoda is the lowest in which ... with articulated members, or distinct jointed ... as with an articulated body. These are intermediate in their conformation between the more highly ... legs of insects and the simple bristle-like ... possessed by some of the Annelida; and this ... the place to which we should refer the anim... class, from a regard to their general structu... on looking at the form of their bodies, we ob... they are distinguished by an uniformity in the ... of the segments, nearly as great as that whic... in the Annelida; so that an *Iulus* might ... likened to an earthworm provided with a sc... tegument, and with slender legs: whilst, on ... hand, the adaptation of the respiratory ... breathe air with regularity and energy, the ... complexity of the apparatus of mastication, ... sion of distinct eyes, and many other charac... cate their affinity with Insects—in which cla... some naturalists comprehend them.

Most persons are familiar with the comm... this class—the *Centipedes* (hundred legs) and ... *pedes* (thousand legs); and a minute desc... them is therefore unnecessary. On examin... these animals, the following points will be ... The covering of the body is firm, and of a ... horny character, resembling that of many in... division into segments is very distinct; a fle... brane being interposed between each pair of ... or plates. This is obviously required by the ... tion of the skin; since, if it were otherwise ... would not have the power of bending in any ... The legs are covered by the same kind of in... and are jointed in a similar manner; each ... in a single claw or hook. No division of the ... distinct regions, like those which are so evid... true Insects, can be observed; but, on the ... the segments are nearly equal along its whol... and each is provided with one or two pairs of ... first segment, or head, is furnished with ey... upon the same general plan as those of in... also with a pair of long jointed antennæ, whic... bably organs of touch. On the side or und... of the animal may be seen a row of minut... pair usually existing on each segment, whic... apertures for the admission of air to the r... organs. The different parts of the nervous ... repeated in a similar manner, a pair of gan... found in every division of the body.

The Myriapoda may be divided into two o... Iulidæ, or *Millepedes*, and the Scolopendri... *tipedes*.

Order I.—Iulidæ.

The Iulidæ, consisting of animals bearing ... resemblance to the *Iulus*, or common Mi... the most nearly allied to the Annelida, both ... form and in the arrangement of the seve... The *Iulus Terrestris*, or Gallyworm, is a sp... found concealed under stones, or beneath ... decaying timber. Its body is long and cylin... is composed of between forty and fifty hard ri... except at the head and tail, differ but little ... another. Each segment gives origin to tw... small legs, which arise close to the middle ... the under surface of the body. These a... large or strong enough to support its weight, so that the animal moves but slowly, and seems rather to glide or crawl than to walk. When at rest, the body is rolled up in a spiral form, and

Iulus

for in some species the blood has a greenish
in others it is nearly colourless, as is in-
a in general. The body is usually soft and
the rings being possessed of little firmness, and
al skeleton of any description being present.
only flexible, but capable of great alteration
ensions, as may be seen in the common earth-
leech.

reater part of this class are solely inhabitants
ter, and are provided with external appendages
ing the blood to its influence, which are analo-
function to the gills of fishes, but which are
tributed over the whole surface, and are also
d in locomotion. It may be regarded as the
rm of these animals to possess such append-
in every segment. But not unfrequently the
nclosed in a tube, and then the gill-cirrhi are
in the neighbourhood of the head, where they
protruded from its opening. The earth-worm
other species are adapted to live on land, and
e a series of air-sacs arranged along the interior
dy on each side, opening externally by a small
f which a pair may be seen upon each segment.
rst segment, which may be termed the head,
the mouth, sometimes provided with a formi-
paratus of jaws; and it is also generally fur-
ith eyes, and with variously shaped tentacula,
e apparently instruments of touch. The last
is occasionally destitute of the appendages with
e rest are provided, and these are replaced by
, which is of great assistance in locomotion.
lass is subdivided into orders by the differences
ral conformation and habits exhibited by the
hich compose it; and especially by the character
ribution of the respiratory organs. The first
DORSIBRANCHIATA, includes those which have the
l appendages or gill-tufts disposed regularly
e body, sometimes extending its entire length,
metimes restricted to the segments about the
This order has been also denominated *Er-*
from the active habits of the animals compre-
in it. In the next, TUBICOLA, we find worm-
nals inhabiting fixed and permanent residences
Mollusca. Sometimes they are enclosed in
bes, formed by an exudation from their own
and sometimes in casings constructed by the
ation of foreign substances. The disposition of
tufts around the head is the principal character
distinguishes the animals themselves from those
rst order. In the third order, TERRICOLA, the
destitute of all external appendages, except some
and almost imperceptible bristles; for the re-
y organs are here developed internally, the ani-
ng formed to crawl upon the ground instead of
ng through the water. And in the last, SUCTO-
body is destitute even of these bristles, but is
d with a sucker at each end of the body. The
er groups were regarded by Cuvier as forming
er.

Order I.—Dorsibranchiata.

e foregoing orders, the Dorsibranchiata appear,
hole, to possess the most complex structure, as
the most varied faculties, and they also exhibit
t characteristic forms of the class. The head
t always distinct from the body, and furnished
ghly-developed organs of sensation, as well as
nplex instruments of mastication. These marine
do not attain any considerable dimension upon
coasts, rarely exceeding a few inches in length;
ropical climates some species are found of some-
ly gigantic proportions, having their bodies
ed of 400 or 500 segments, and occasionally
ing four feet from one end to the other. Their
form will be seen in the accompanying figure,
epresents the *Syllis Monilaris*; and the enlarged
one of the lateral appendages will show the para-
ch it consists. In the centre there is a tuft of
e bristles, which may be regarded as the chief

Syllis Monilaris, with an enlarged representation of one of its appendages.

organ of respiration, the blood being sent into them to be exposed to the air contained in the water; above and below there are separate bristles, much more elongated, of which the lower one has a jointed character; these are instruments of locomotion, and may be regarded as rudimentary legs. The arrangement of these parts differs much, however, in the various tribes of this order.

Among the more interesting forms of this order may be mentioned the family Nereidæ, or Sea-Centipedes, of which many species inhabit our own coasts, but much larger ones are found in tropical seas. They have no venomous power, but are extremely voracious; and are often furnished with a complex apparatus for seizing their prey and reducing it to fragments.

The *Aphrodita* is an animal well known on our coasts under the name of *Sea-Mouse*; numbers are often cast up by a gale of wind. The body is flattened, and shorter and broader than that of other Annelida. The back is covered by two longitudinal ranges of broad membranous scales, under which the gills lie concealed. The most common species of Sea-Mouse are about six or eight inches long, and two or three broad. A great part of the body is covered by bristles of brilliant lustre, and of colours which vary with the light; so that the animal is scarcely surpassed in beauty of colouring by any other. The *Arenicola piscatorum*, known to fishermen by the name of *Lob-worm*, is another species common on our coasts, and is eagerly sought as a bait. It burrows, like the earth-worm, in the sand; and the place of its excavations may be known by the little heaps which it casts up. The branchial tufts are confined to the centre of the body, where they form on each side a series of bunches, which are remarkable, during the life of the creature, for their beautiful red colour, derived from the crimson blood which circulates copiously through them.

Order II.—Tubicolæ.

Comparatively little is known of the structure of the animals of the order Tubicolæ, which never attain to such great dimensions, and do not offer to the naturalist the same facilities for examination. The structure of the casings which they form, however, has been fully investigated. One of the commonest of these is the shelly tube exuded by the *Serpula*. This is formed of calcareous matter resembling that of the shells of Mollusca, and apparently secreted from the surface of the body in a similar manner. These tubes, which are often very greatly contorted in form, are generally found encrusting the surface of stones or other bodies which have been immersed for any length of time at the bottom of the sea; they are closed at one end, which tapers to a point, and the wide end is open.

Serpula Contortuplicata, taken out of its tube.

The animal forming this shell has its branchial filaments all assembled round the head, where they form a pair of most elegant fan-like appendages, which usually possess very brilliant colours. At the base of each tuft is a fleshy filament; and one of these, on the right or left side indifferently, is always prolonged and dilated at its extremity into a flat disk, which fits to the mouth of the shell, and serves to close it when the a withdrawn into the tube.

The *Sabella* is an animal very much re the Serpula; but it constructs its tube by nating particles of clay or fine sand. The forms a similar tube, by cementing togethe shells and fragments of larger ones, toget particles of sand, gravel, &c.; and some sp in aggregate groups, so that the clustering of their tubes forms solid masses, which a increasing to a considerable size. In none cases is the shell or tube to be regarde of the animal; it is merely its habitation. nelide forms no muscular attachment to it, an can be easily drawn forth from its interior.

Order III.—Terricola.

The order Terricola includes very few which the *Lumbricus*, or common *Earth-wo* chief. They live in general beneath the surf ground, either perforating the dry soil, o themselves in mud, where many of them lea aquatic life. When the Earth-worm is insinuates its pointed head between the pa earth, amongst which it penetrates like a w in this position, the anterior part of the body spines or bristles curved backwards, which from slipping. The hinder parts are then d wards by a longitudinal contraction of the wh —a movement which the spines do not opp swells out the anterior segments, and force the passage into which the head had bee thrust. The spines upon the hinder rings th firm hold upon the side of the hole, thus for prevent any backward movement; the hea forced forward; and, by a repetition of the p animal easily makes its way through substa it would at first have seemed impossible for i trate.

The burrowing of Earth-worms is a proce ingly useful to the gardener and the agricultu these animals are far more beneficial to m way than injurious by devouring the vegeta the soil. They give a kind of under-tillage t performing the same below ground that the s above for the garden, and the plough for ar and loosening the earth so as to render it p to air and water. It has lately been shown will even add to the depth of the soil, and cre where none existed before. This they do p by the exercise of their digestive process. a large quantity of the soil through which th into their intestinal canal; from this they e greater part of the decaying vegetable mat contain, and reject the rest in a finely divi forming what are known as worm-casts. By mulation of these, a field which was manu marl has been covered in the course of sig with a bed of earth averaging thirteen inches ness.

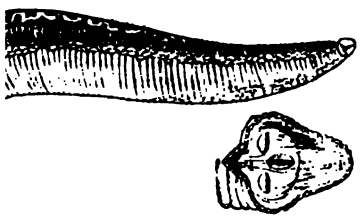
It is commonly supposed that the Earth-w be multiplied by the division of its body into t of which each will continue to live. This appear to be the case. If it be divided across th when in motion, each will continue to move fo but only the piece which bears the head will alive after a few hours. This forms a new soon shows little sign of the injury. But if th be made near the head, the body will remain a will renew the head; and the head with its few segments will die. The *Naides*, however, hav greater amount of reproductive power; for t be cut into many pieces, of which each will b perfect animal; and it is stated that a separati place spontaneously, but to a much greater ex

Order IV.—Suctoria.

The order Suctoria contains the common Le its allies, which are all animals of aquatic ha

ng in its blood-seeking propensities. Most however, live at the expense of some other

ure of the mouth of the leech is very inte- is situated in the middle of the cavity of sucker; and three little cartilaginous



vith the anterior sucker and teeth enlarged.

ly called *teeth*, but more properly *jaws*, are isposed around it, in such a manner that ges form three radii of a circle. Each of s rows of very minute teeth at its edge; so bles a small semicircular saw. It is im- base in a bed of muscle, by the action of orked in such a manner as to cut into the ng movement being given to each piece It is in this manner that the tri-radiate leech-bite is occasioned; each ray being a separate little saw. The lacerated cha- wound is very favourable to the flow of is further promoted by the vacuum created r. The greater number of the *Leech* tribe its of fresh water; some, however, are only sea: and there is one terrestrial species, a ylon, which appears to be more voracious er, and to be one of the greatest pests of nd.

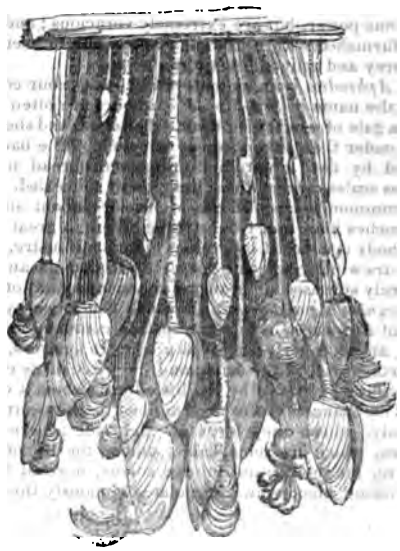
CLASS XI.—CIRRHOPODA.

ls composing this class have so many cha- ommon with the Mollusca, that they have ly regarded as belonging to that sub-king- dy and its appendages are themselves quite skin has the loose spongy muscular cha- corresponds with the *mantle* of Molluscs. face is secreted a shell, composed of several ot differing in general aspect from multi- belonging to that division. Further, the her themselves firmly united at their base d masses, or they are attached by a foot- t the conditions in which the animals exist ble those to which we observe the Mol- rly adapted.

her hand, when we examine the animal d that it is perfectly symmetrical in its racter nowhere existing among the Mol- re inclosed in shells. Its body is prolonged, a tendency to division into segments; and these there arises a pair of appendages on ich possess something of a jointed struc- cirri, as they are termed, are long taper- nged with cilia, or little hair-like filaments; e gills at their base. Further, the mouth with lateral jaws, which no Mollusca pos- e nervous system consists of a double cord, f ganglia in each segment of the body, pre- he other Articulata. The most interesting er, that the Cirrhopoda belong to this divi- ed from the history of their development. eration from the egg, they present a form analogous to that of the lower Crustacea of the adult animal, which they only ac- series of metamorphoses. They are fur- ntennæ and eyes, and move freely through ut when they become fixed they lose also of sense. The shell is not formed of simple hat of the Mollusca, but is traversed by a complex series of canals, through which nourishment is conveyed to it.

The Cirrhopoda are divided into two principal groups —the *pedunculated* and the *sessile*. The latter, of which the common *Balanus* or *Acorn-shell* is an example, have the base of the shell fixed immediately to rocks. In the former, such as the well-known *Barnacle*, the shell is attached by a peduncle or footstalk, which consists of a tube of leathery consistence, and is often of considerable length. In both groups, the animals, not being able to go in search of food, obtain it through the currents produced by the action of their cilia.

The shell of the common *Barnacle* consists of five pieces, of which two are large valves, somewhat resembling those of a mussel; two smaller pieces are jointed to these near the point; and one unites the valves along the back edge. These cover the whole of the mantle. Barnacles are abundant in all seas, and fix themselves, in preference, to wood; so that a piece of timber which has been for a short time floating in the ocean is almost sure to be partly covered with them; and ships' bottoms, if not protected by copper, are rendered so foul as greatly to impede their sailing.



Group of Anatifa, attached to a ship's bottom.

The *Balanus*, or Acorn-shell, has more of a globular shape, with a narrow mouth, and is composed of a certain number (varying in the different species) of plates, of a triangular form, so disposed, that an addition to the edges of each shall preserve the general proportions of the shell, whilst increasing its cavity in all its dimensions in accordance with the growth of the animal. In this arrangement we recognise the same plan as that adopted in the shell of the echinus. The animal closely resembles the barnacle. The mouth of the shell is guarded by an *operculum*, consisting of two or more valves, which close it more or less completely. The rocks, piers, &c., on many parts of the coast, are covered with these animals; and small species of them also attach themselves to shells of various kinds.

CLASS XII.—ROTIFERA.

The class Rotifera is one composed entirely of animalcules which can only be distinctly seen with the microscope; and it takes its name from the wheel-like organs with which most of them are provided, whence they are commonly known as Wheel-Animalcules. It is only within a very recent period that the complex structure of these beings has been understood, and that they have been separated from the animalcules of simpler organisation. It is on account of the prolonged

form of their bodies, the position of the mouth and eyes at one extremity, the occasional marking of transverse lines indicating a division into segments, and most of all by the character of the nervous system, when that can be detected, that the Rotifera are ranked in the articulated sub-kingdom. Unquestionably, they bear more general analogy to that than to any other; but they must not be considered as characteristic specimens of it.

The structure of the common wheel-animalcule, *Rotifer vulgaris*—which may be found in many collections of stagnant water, especially such as have been long and freely exposed to the atmosphere—will afford a good illustration of that of the class. The body exhibits a prolonged form when fully extended; but, as the integument is very elastic, it may be drawn up into a circle or made to assume a great variety of shapes. At one end it is furnished with a pair of projections, which are surmounted by circular fringes of cilia. It is by the vibration of these cilia that the currents are produced in the water around, which give an appearance as of the continual revolution of wheels. Between the wheels a sort of head extends forwards, on which a couple of red spots may be observed, which are believed to be eyes. The mouth is situated at the base of this central projection. At the opposite end the body is prolonged into a sort of tail, furnished with three prongs; and by this the animal fixes itself when working its wheels for obtaining food.

The delicate membrane which covers the body has two series of muscular fibres disposed within it; one set running longitudinally from end to end; the other transversely, so as to form rings around the body. By the contraction of the former the body is shortened; by that of the latter its diameter is decreased, and it is consequently lengthened. This is the same kind of apparatus as that by which the form of the leech and worm tribe is altered. The transparency of the integument allows the contained organs to be distinctly seen; and these are perceived to have regular membranous walls of their own, and to be altogether distinct from the general substance of the body. The most curious of these is the gizzard, or set of jaws (as it may perhaps be termed) in which the food is ground down before it is transmitted to the true stomach. This is placed in the fore part of the body, and principally consists of a hard framework in two pieces, each of which bears two teeth. The two frames are moved by powerful muscles, and worked in such a manner that the teeth are made to interlock and to separate alternately, so as to tear all the food which is transmitted into the stomach. From the stomach there passes backwards a long straight intestine, which terminates near the posterior part of the body.

These animalcules feed chiefly upon others of smaller size and simpler character. The currents set in motion by the cilia are very powerful, and draw in whatever small bodies are within their scope; and the animal seems to select from these what is adapted to afford it nutrition. Sometimes it folds in its wheels, and moves along a solid surface by the suckers with which its head and tail are furnished, in the same manner as a leech; and sometimes it remains altogether inert for a considerable period. One of the most remarkable points in its history is its power of being revived by the application of moisture, after having been entirely dried up. This experiment, however, does not always succeed.

The Wheel-Animalcules are propagated by eggs, the development of which within the body of the parent may be very distinctly seen, on account of the transparency of the latter. These eggs are large and not very numerous, seldom more than four; but they rapidly arrive at maturity, and are soon capable of producing others. It has been calculated that, from a single individual, more than a million may be produced in ten days. In some of this class, the eggs are borne for some time on the outside of the body, attached to its posterior part, as in the *Cyclops* and other minute Crustacea, to which the general structure of the higher species of Rotifera shows them to be nearly allied. Oth connect this class with the higher Polypifera.

CLASS XIII.—ENTOZOA.

This class derives its name from the peculi tion in which the animals composing it exist, them being inhabitants, during their whole li bodies of other animals, generally those of hig nisation, from the juices of which they der nourishment. Many of them possess a distin like form, the body being much prolonged, an ing a division into segments, and the mouth b ated at one extremity. These, therefore, belong to the Articulated series. There a which, in the absence of all distinct organs, s the circularity of their form, seem to approxi to the Radiata. Some species, formerly lon class, are now known to be low kinds of Cru

A division of the Entozoa into two sections proposed, founded upon the general peculiarit structure, which it may be useful here to r the first and highest of these, there is a dist tinal tube, with an orifice at each end; and nervous and muscular system, more or less may be detected. This division evidently ap to the Annelida. It includes, among many ot the *Filaria*, or Guinea-Worm, which burr flesh of man and other animals in warm c undisturbed, it will often continue its opera considerable time without much uneasiness; turbed, it sometimes occasions the most e pain. When it shows itself externally, it is very slowly, for fear of breaking it, in whic remainder would retreat, and continue t grows to the length of several yards. T *lumbricoides*, or Round Worm of the inte belongs to this group. It infests not only many of the lower animals, and often occas disease and even death. It derives its spec cific name from its resemblance to the ea The short active Thread-worms, sometime the lower part of the intestine, are another the same genus.

In the lower division of the class, there is alimentary canal; the cavities for the recepti as well as those for other purposes, being, channelled out of the soft, almost homogeneo of the body. Some of these still preserve the form. Such are the so-called eels in vinegar curious little parasites which have been re covered to infest the muscles of man. To also belongs the *Tænia Solium*, or Tape-Worm we find a remarkable repetition of organs. is distinctly divided into joints or segmen sometimes amount to several hundred, the mal occasionally attaining the length of ten fe segments are all connected by the nutritive ca runs from one end to the other; but the re apparatus is repeated in each division. T small, and possesses four mouths, surrou double circle of small hooks. Its existence to the life of the body, the latter dying if it off; but if some of the joints remain attac head, it continues to grow and form new on repetition of parts, we see a tendency towar of the Polypifera.

One of the most simple of all the Entozoa mon *Hydatid*, or Acephalocyst (headless) seems to consist of nothing but a globular t bag filled with a limpid colourless fluid, no motion or indication of sensation, whe any kind are applied to it; and it is often distinguish it from the tissues in which it l power of reproduction, however, by the *gemmæ*, or buds between its layers, shows titled to the rank of an independent being Hydatids are thrown off internally or exter ing to the species.

mongst the animals associated with this group, gh not conforming with it in their residence, is the *aria*, a very interesting genus, of which some ies inhabit fresh water and others are marine. body is flat, and three or four times as long as d. Within its soft tissue are channelled out not a complex digestive cavity, but also a system of ls which absorb fluid from its walls and convey it ugh the system, and a reproductive apparatus. stomach opens, not by a mouth at one end, but by rt of sucker projecting from the middle of the body; through this the Planaria imbibes the juices of va- aquatic animals which it attacks, mastering even re little worms by twisting its body round them. most curious part of their economy consists in their er of reproducing parts that have been lost, and of iring injuries, which seems almost as great as that he Hydra among Polypes. They may be divided three parts, of which the former shall contain the minute spots which are believed to be eyes, the dle one the sucker, and the posterior one the repro- ive apparatus; and in a short time, each part will elop itself into a new individual, perfect in all its s. It may be partially split longitudinally from er extremity, so that two heads or two tails will be ed, uniting at the middle point, but each being plete in itself.

SUB-KINGDOM—MOLLUSCA.

he range of animal forms comprehended in this sion of the Animal Kingdom is so great, that it would lficult to include them by any definition applicable hem all. The highest class approaches Fishes in ny points of its organisation; whilst in the lowest not only lose sight of some of the characteristic aliarities of the group, but we find a near approxi- tion to the higher Polypifera. In all the Mollusca, body itself is of soft consistence, as its name imports, l is enclosed in a soft elastic skin, lined with mus- r fibres, which is termed the *mantle*. This skin, in ny instances, is not applied closely to the body, but as a membranous bag, having apertures (which are metimes prolonged into tubes) for the entrance and ss of water; and through these the respiratory ans, which are situated within the cavity, are regu- ly supplied with the pure fluid necessary for aërating ir blood; and the mouth, when it is not capable of ng projected beyond this cavity, is supplied with d by the same stream.

The Mollusca possess in general a very complicated strative and circulating apparatus; but the organs of tation and voluntary motion are comparatively un- eloped. The great bulk of their bodies is made up he stomach and intestines, the liver and other glands nected with the alimentary canal, the respiratory aratus, and the ovary for the production of germs ich is usually very large); and the muscular sys- which in the Articulata forms so large a propor- of the whole structure, is here frequently reduced few scattered fibres, and in but few instances at- any complexity and power. A considerable num- of Mollusca are formed for an existence as com- ely stationary as that of the Zoophytes, and are endent for their nourishment on the supplies of l casually brought within their reach by the waves currents of the ocean. A few, however, have ers of locomotion which enable them to search vely for it themselves; but the greater number der sluggishly, like the snail, from place to place, ouring with voracity such supplies as they meet h, and being capable of fasting for long intervals en none come in their way.

It is from the surface of the mantle that the calcareous tter is exuded which forms the shell, in those species ich possess such a protection; its particles are held gether by a sort of glue, which exists in much larger proportion in some species than in others. In very hard and brittle shells, if the calcareous matter be removed by the action of an acid, the animal matter that remains appears in the form of separate flakes. But in many other shells thus treated, the animal portion retains its form after the removal of the lime; and there are a few in which the (so-called) shell consists only of a substance like horn, without any intermixture of calcareous particles. Such a substance appears to be formed by the young animal before the true shell is secreted; and it is also the first that appears when the animal is repairing the effects of an injury to the old one. It is this that constitutes what is commonly termed the *epidermis* of shells—a covering possessed in their natural state by all that are not enveloped in a fold of the mantle, but which is commonly removed when the shell is preserved, as it impairs the beauty of the exterior. The shell is most solid and massive in those species which lead an inactive life; and is usually light and thin, or altogether deficient, in those whose powers of locomotion are greater. Its thickness often varies greatly amongst different individuals of the same species, according to the roughness or tranquillity of the waters they inhabit.

As the shells of Mollusca are the parts of their structure by which they were best known, it was natural that the first attempts at classification should be founded on their peculiarities. Accordingly, Linnæus arranged them into *Univalves*, *Bivalves*, and *Multivalves*, according to the number of pieces of which the shell is composed; and this classification, from its simplicity and the apparent facility of its application, has been very generally adopted. But, as will hereafter be seen, it is only within certain narrow limits that the character of the animal can be known by the structure of its shell; and, by the Linnæan classification, animals are brought together which are widely separated, and others are placed in distinct classes which are closely allied. Again, such a classification is totally inapplicable to the very numerous shell-less Mollusca, some of which approach so closely to those bearing shells (as, for example, the *Slug* to the *Snail*), that scarcely any essential difference exists. It is obvious, then, that although the characters derived from the shell may often be valuable in enabling us to recognise the remains of particular animals, classification must not be founded on them, but on the general conformation of the animals by which they are produced.

Following this principle, the Mollusca may be divided, first, into those having *a head*—that is, a prominent part of the body on which the mouth is situated, with organs of sense in its neighbourhood—and those which are *acephalous*, or headless. Among the former we perceive three very distinct types of structure.

The Cephalopoda, or *Cuttle-Fish* tribe, have feet or tentacula arranged in a circular manner around the head. In this group we find the nearest approximation to the Vertebrata.

The Pteropoda constitute a small but interesting class, characterised by the possession of a pair of wing-like expansions of the mantle, and by the great symmetry of their bodies. These expansions serve as fins, by which they swim through the water with great velocity.

The Gasteropoda are the most extensive group of the whole. The two former are confined entirely to the sea; amongst these we find species adapted to live in fresh water, and even on land. They have but one muscular expansion or foot, and this proceeds from the under surface of the body, as may be well seen in the Snail.

In each of these orders we observe a considerable variation in regard to the relative size and even the existence of a shell; for whilst there are some species in all of them which are entirely destitute of this protection (such being called naked Molluscs), there are others which possess it in a slight degree, having it generally concealed in a fold of the mantle, whilst in others it completely envelops the body, when they

CLASS XIV.—CEPHALOPODA.

The class of Cephalopoda, which is so named from the arrangement of the feet or locomotive organs around the head, must be regarded as the highest among the Mollusca in respect to the complexity of its organisation, and it is the one which approaches most nearly to Vertebrated animals. In the general form of their bodies, and in their adaptation to rapid motion through the water, many species bear a considerable resemblance to Fishes, and are, indeed, commonly reputed as such. The name of the class expresses the character which distinguishes it from all others. On the head, which is furnished with eyes resembling those of higher animals, and also with organs of hearing, and perhaps also of smell, are disposed in a circular manner the curious appendages, which have received the names of *feet* or *arms*, and to which either term may be justly given, as they are organs of prehension as well as of locomotion. These are usually eight or ten in number; but in the true *Nautilus* they are much more numerous, amounting to nearly a hundred.

The mouth, which is situated in the centre of the circle of arms, is provided with a pair of firm horny mandibles or jaws, of which one is sharply pointed, and overlaps the other when closed, so that the whole very much resembles the bill of a parrot. This beak encloses a large fleshy tongue, roughened with horny prickles; and the œsophagus leads to a muscular stomach, which much resembles the gizzard of birds. All the Cephalopoda are aquatic, and consequently breathe by gills. These are disposed symmetrically on the two sides, and are covered in by the mantle. This envelope includes the whole body, but there is an opening in it which gives passage to the head. Through this opening the water enters to the gills, and it is expelled through a tubular prolongation of the mantle termed the *funnel*, which also serves as the excretory canal for other fluids.

Most of the Cephalopoda possess something analogous to the shells of other Mollusca, although it often exists in a form and position which might almost prevent its

[illegible] Class.—The [illegible] armour of the [illegible] and its powerful claws, are no protection t these soft-limbed cuttle-fish, which wind round their bodies, and, fixing every part their suckers, tear apart the divisions of means of their hard parrot-like bills. S these suckers adhere, that, while the mu remain contracted, it is easier to tear away t of the limb than to release it from its attac

The Cephalopoda which are unprotecte ternal shell are furnished with a curiou escaping from their enemies. This is the a dark fluid, which, when emitted by the a the water around to such a degree that it c the cloud it has made. The fluid is usual in a bag communicating with the funnel, th it is ejected under the influence of alarm. T as it is termed, is collected from the specie the Indian seas; the ink forms a valua known to the artist as *sepia*, the name of which furnishes it.

The class of Cephalopoda may be subdivi orders. In the higher division, which app nearest to vertebrate animals, the *branch* are two in number, and the order is term CHIATA; whilst in the one most closely Gasteropod Molluscs, the branchiæ are n ber, and the order is therefore termed CHIATA.

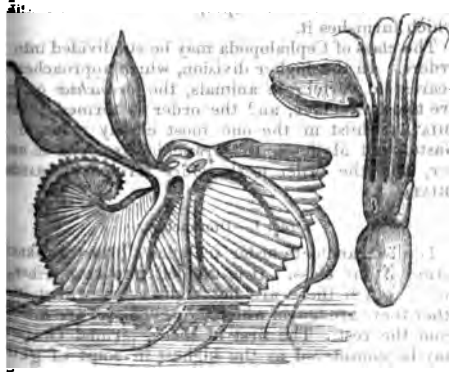
Order I.—Dibranchiata.

The Dibranchiate order includes all the forms of the class. It is divided into tw one of which there are but eight arms, t other there are ten, of which, however, two from the rest. The first of these, termed may be considered as the highest in point organisation; the second, termed Decapo many points of approach to the Tetrabranc both in the increased number of arms, and sence of an inner circle of short tentacula, several internal characters. The *Sepia*, Cuttle-Fish, is a characteristic example of t

and powerful, and that the body is proportionally ... The arms are generally united at their bases ... kind of circular fin, by the motion of which the ... can swim backwards with great energy. The ... *Octopus*, or *Poulp*, of European shores, has ... six times the length of the body, and each ... shed with 120 pairs of suckers. It can leave the ..., and creep over the beach; taking hold of the ... before it by the extension of its arms, and then ... the body towards the point at which the ... are attached.

very interesting species of the Octopod group is ... *Argonauta Argo*, commonly called the *Paper-Nau-* ... from the whiteness and delicacy of its shell. As ... animal has little in common with the true Nauti- ... would be much better if the latter designation ... entirely abandoned, and the term *Argonaut* ... ated for it. The shell is not chambered, but ... one spiral cavity, into which the animal can ... draw itself entirely; this, however, has no mus- ... attachment to it, whence it has been supposed by ... naturalists that it was only a parasitic inhabitant, ... had taken up its abode within it, and that the ... from its resemblance to that of Carinaria, was ... ed by a Gasteropod mollusc allied to that genus. ... been lately proved, however, by the interesting ... riments of Madame Power, that the shell increases ... arly with the growth of the animal, which possesses ... power of repairing it when injured; so that no ... can exist that the Argonaut is the original con- ... tor of it.

The eight arms of the Argonaut, six taper gradually ... ds the extremities; but two are expanded into ... membranous flaps. From very early times, this ... has been reputed to swim on the surface of the ..., using its arms as oars, and spreading these ex- ... it



Shell of Argonaut, with animal in the reputed position.

ed membranes as sails to the wind. But it is now ..., by accurate observation of the living animal, ... is altogether a fiction (though an interesting ... and that the expanded arms are spread over the ... of the shell, meeting along its keel or edge, and ... completely enclosing it. It is by these, indeed, ... than by the surface of the body itself, that the ... eous secretion is poured out for the enlargement ... paration of the shell. By the action of the arms, ... rgonaut swims backwards in the same manner as ... Octopi; and it can also creep along the bottom ... sea.

Order II.—Tetrabranchiata.

... om the remains preserved in a fossil state, the ... branchiata appear to have formerly abounded in ... seas; but the only living representative of them is ... *Pearly Nautilus* (N. Pompilius). In the animal ... h forms and inhabits the well-known chambered ... found on most tropical shores, we observe many ... rences from the usual type of organisation in the ... alopods. The arms are very numerous, amounting to nearly a hundred; they are unprovided with suckers; and they are short and slender, resembling closely the tentacula of many Gasteropods.

The head of the *Nautilus* supports a large fleshy disc, upon which it is believed that the animal crawls upon the bottom or sides of the ocean, as a snail upon its foot. The animal frequents deep waters; and, though it is occasionally found at the surface, it sinks upon the least alarm, so that it has been very rarely captured, although the empty shell is so common. This power of rising and falling in the water appears in some degree connected with the structure of the shell, and with the mode in which its chambers communicate with the body by a membranous tube which passes through all the partitions, and is called the *siphuncle*. But of the mode in which this operates no very satisfactory account has yet been given.*

A large number of fossil shells, analogous to that of the Nautilus, and hence called *nautilites*, are found in various strata, from the oldest limestones and sandstones of the Silurian system, to those covering the chalk.

CLASS XV.—PTEROPODA.

The Pteropoda are a small but remarkable class of Mollusca, distinguished by the adaptation of their structure for active locomotion in water only. Their general organisation is higher than that of the Gasteropods; and they are particularly distinguished by the possession of a pair of fin-like organs, which are attached to the anterior part of the body, and are evidently adapted for propelling it rapidly through the water. The body is uniformly symmetrical; that is, its two sides precisely correspond—a condition obviously favourable for rapid movement. It is from the wing-like character of these lateral appendages that the name of the class is derived.

The dimensions of the animals composing this class are uniformly small; but the number of individuals which associate together in shoals is often enormous, so that the sea appears literally alive with them. Some of them are possessed of a shell, whilst others are unprovided with such a protection. Wherever it exists it is very light and delicate; and it seldom covers more than the posterior part of the body. In one beautiful little Mollusc, the *Cymbulia*, it is of a slipper form, the wings or fins issuing from the large opening. The head is usually prominent, possessing eyes and sensitive tentacula; and the interior organisation is of very complex nature.

One of the best-known genera of this group is the *Clio*, which abounds both in the arctic and antarctic seas, and is a very important article of food to the whale. The aspect of this animal will convey a good general idea of that of the whole class. The Clio is itself eminently carnivorous, and in its whole organisation is fitted to seize and prey upon the yet more minute inhabitants of the deep.

The *Clio Borealis* is well known to the whale-fishers and others as *whale's food*; this species swarms in the

Clio Borealis.

arctic seas, and when the weather is calm, these little animals may be seen floating in myriads upon the sur-

* See Dr Buckland's Bridgewater Treatise for an attempt at explanation. This is deficient in its application to all those cases in which the siphuncle is a shelly not a membranous tube, as in the *Spirula*, *Ammonite*, &c.

face. According to Cuvier, the sea is sometimes so glutted with them, that the whales cannot open their mouths without engulfing thousands of these small molluscs. An analogous species, the *C. Australis*, appears equally abundant in the polar regions of the southern hemisphere.

CLASS XVI.—GASTEROPODA.

It is in the animals of this class that we find the characters of the Mollusca most prominently displayed, namely, the high development of the nutritive apparatus, with very feeble powers of locomotion. In all the more perfect forms, which are usually carnivorous, a distinct and prominent head exists, furnished not only with *tentacula*, or feelers, but also with eyes, and with what appear to be rudiments of organs of smell and hearing. In this part, we usually perceive that *symmetry* or correspondence between the two halves, which has been spoken of as characterising the *animal* organs in general; whilst in the posterior part of the body, which is made up of the organs of vegetative life, this symmetry is seldom to be discerned. They have the power of crawling from one place to another, by means of the expanded muscular disc or foot with which they are furnished; and as this foot proceeds from the belly or under surface of the animal, the class receives the name given to it. The mode in which it is used may be well seen by placing a snail or slug on a piece of glass, and looking at it from the under side. Many of those which inhabit the water can swim with considerable rapidity; but this power is chiefly possessed by those species which have no shell, or but a very slight one, and can bend their bodies in any direction.

The general character of the shelly structure, where it exists, is the same as in the Conchifera. It is in general composed of one piece, and called a *univalve*; in some instances, however, it is a *multivalve*; and in many species there is a small *operculum* or lid to the mouth of the shell, which may in some degree be regarded in the light of a second valve. The body is attached to the interior of the shell by muscles which can withdraw it or project it at the will of the animal; and the operculum can be drawn down upon the mouth with considerable force. It is the habit of some species, (as the Limpet and Haliotis), to attach themselves, by the expanded surface of the foot, to rocks, &c.; these are able to draw the shell closely down upon the rock, with great muscular power, just as the Conchifera draw together their valves; a short interval existing, however, when the animal is not alarmed, for the admission of water or air to the cavity of the shell. A very slight irritation will cause the animal to draw the shell close down on the rock, from which it is then very difficult to detach it.

The shell is formed, as in other Mollusca, by an exudation from the mantle; and is enlarged at intervals, in accordance with the increasing size of the animal. In some, the addition of an entire new interior layer, projecting beyond the old one, is made at every such period, as in the Conchifera; but in others the new matter is secreted only at the edge of the previous shell, and is joined on, as it were, to it; in these the line of addition is usually marked by a prominent rib on the exterior, but the interior is beautifully smoothed off.

The forms of the shell in this class vary extremely; but those which appear most widely separated may be shown to be connected by intermediate links. The open cone of the *Limpet* may be regarded as one of the simplest forms; in an allied genus, the *Pileopsis*, we find the point prolonged, and somewhat rolled upon itself; and by various links of this kind, we are brought to the regular spiral of the snail. From this we may return to the long straight form by the *Scalaria*, in which the coils of the spire touch each other only by their ribs; and by the *Vermetus* and *Magilus*, in which the commencement only of the shell possesses a spiral form, the remainder being prolonged into a straight tube. When the shell is spiral, and the point and mouth are not in the same plane, a sort of central pillar like that round which a spiral staircase is This is called the *columella*; and it is at its lower part, for the passage of water ratory organs, which are placed within the

The margin of the shell is not unfrequ with spines, as in the *Murex*; these are similar appendages in the Conchifera, by prolongations of the mantle; and the dissimilar number of them in different specimens has caused the establishment of many species, which, now that the habits of the animal are better known, prove to be but different forms of the same. For it has been ascertained that the animal has not only the power of forming new spines, but of removing old ones, especially such as would interfere with the continued growth of the shell. The edge of the mantle is applied against their bases, and a kind of absorption of shelly matter seems to take place—a notch being formed, which causes them to be easily broken off. Various analogous changes are produced by a similar action in other shells, the portions first f wholly or partially removed. Sometimes the older portion are thinned, for the purpo ing the shell; and in other cases the top o altogether removed, a groove having b around its interior, which renders it so w easily broken off: in these last cases, the viously withdraws itself from the part that separated, and throws a new partition acr

Murex Tenuis

Young Shell.

Adult Shell.
Pterocera Scorpio.

shell remains closed after the division. eprived of its apex is said to be *decollated.* ly by such removals that the form of uni- undergoes a great change. Sometimes made to them, which completely alter so that two individuals of different ages rcely supposed at first sight to belong ribe. But in all these cases the form of ell may be traced in that of the adult. g figures of the *Pteroceras* show this moderate degree; in other genera it is markable. In another group of shells, ommon *Cowry* is an example, a still more ation takes place. In the young shell arp, and the mouth or opening of consi- th. This state continues as long as the sing in size; but when it has arrived at outer lip is thickened, and brought so r as to leave but a narrow chink between same time, a prolongation of the mantle deposits a new layer of shelly matter on the previous one; and as the two pro- et along the back (the line of their junc- tally evident on the shell), this additional very hard and *porcellanous* in its texture, hole previous shell.

Young Shell.

Adult Shell.
Cypræa Exanthema.

lum is principally confined to the aquatic It is sometimes of the same texture as lf, and sometimes horny. It does not the entire mouth of the shell, but it is ide to fit it, at all stages of growth, with tiful accuracy. Some of the land species n operculum; but in general they are des- d they form during hybernation a tempo- to the mouth of the shell, by a viscid ch hardens into a thin plate, and includes bble of air. Behind this, a second and similar partition is occasionally found, as n snail.

ision of this extensive class into orders, ffected by arranging the different tribes the character and position of the respi- s. The following are those adopted by

A. These are terrestrial species, adapted air by means of a pulmonary sac or air- rifice of which they can open or close at ave no shell.

NCHIATA. These, as well as all the suc- s, are aquatic, being adapted to respire s, like other Mollusca. The animals of e no shell, and they carry their branchiæ, various forms, on some part of the back.

RANCHIATA. These are similar in many respects to the preceding, but the branchiæ are situated under the margins of the mantle.

4. TECTIBRANCHIATA. In the greater part of the animals contained in this order, the branchiæ are situated upon the back or on the side, and are covered in by a fold of the mantle, and this fold usually includes a shell more or less developed.

5. HETEROPODA. This is a small order, characterised by the peculiar form of the foot, which is not spread out horizontally, but compressed vertically into a sort of fin. They carry their branchiæ, the tufts of which are generally protected by a shell, upon the back.

6. PECTINIBRANCHIATA. The animals of this order, to which belong all the spiral shells, except those of the Pulmonea, are so named from the comb-like form of their gills, which are usually situated in a cavity behind the head, corresponding with the respiratory sac of the Pulmonea. This is by far the most numerous order of the whole.

7. TUBULIBRANCHIATA. These have many affinities with the last order, but the shell is spiral only at its apex, where it is commonly fixed to (or rather enclosed by) other bodies, and is prolonged in the shape of a tube more or less regular.

8. SCUTIBRANCHIATA. In these, also, there is a considerable resemblance to the Pectinibranchiata in the form and position of the gills; but the shells are very open, scarcely in any degree spiral, and cover the body and gills like a shield; and they also differ essentially in their mode of reproduction.

9. CYCLOBRANCHIATA. These molluscs have their gills disposed in little tufts under the margins of the mantle, much as in the Inferobranchiata; but they have shells, which are spread out over the body, and differ from that order in their mode of reproduction.

Order I.—Pulmonea.

Although the greater part of the Molluscs of this order live on land, some are aquatic; but these, like the aquatic air-breathing Insects and Vertebrata, are obliged to come occasionally to the surface to breathe. They all feed chiefly upon vegetables, and many of them exclusively so; but some are extremely voracious, and will devour almost any organised matter that falls in their way. They are diffused through all climates, particular species being restricted to each. Those without a shell, commonly known as Slugs, constitute the family LIMACINÆ. In the common *Slugs*, as in most of the terrestrial species of this order, we observe a prominent head, with four tentacula, and at the end of the longer pair the eyes are situated. These tentacula can be drawn inwards, by a process resembling the inversion of the finger of a glove. On the back there is a kind of shield or disc formed by the mantle, which sometimes encloses a small shell. This shield covers the pulmonary sac, the opening of which is on its right side, and the head can be withdrawn beneath it. The *Testacella* is a kind of slug which has the disc of the mantle at the posterior extremity, and this always contains a small shell. This animal, which feeds largely on earth-worms, is abundant in the south of France, and has lately been introduced into the gardens of this country, where it is multiplying rapidly.

The *Snails* and their allies, constituting the family HELICINÆ, are closely allied to the Slugs in organisation; differing in but little else than the possession of a shell into which the body may be withdrawn. The common garden-snail of this country, and the *Helix pomatia*, or edible snail of France and Italy, are well-known examples of this family. More striking ones are to be found, however, in tropical climates; where some species of the genus *Bulimus* attain to great size, the eggs being as large as a pigeon's. In some species the direction of the coils of the shell is opposite to what it is in other spiral shells; such are said to be *reversed.* A European species of this genus is one most remarkable for the decollation of its shell. Another large snail of tropical climates, as the *Achatina*, which feeds on trees and shrubs, chiefly on the western coast of Africa, and in

the West Indies. Several of its species are distinguished by the beauty of their colours.

The aquatic Pulmonea have only two tentacula. From the necessity of coming to the surface to breathe, they can only live in water of inconsiderable depth; and they chiefly inhabit ponds and shallow streams, or the banks of rivers. Some, however, live on the sea-shore. The *Planorbis*, the shell of which is quite flat, having all its coils upon the same level, is a very common genus in this country; as is also the *Lymnæa*, which feeds upon seeds, as well as the softer parts of plants, and the stomach of which has a very muscular gizzard.

Order II.—Nudibranchiata.

The animals of this order, which might be designated Sea-Slugs, are all marine; and being adapted to breathe water at any depths, and also, in many instances, to swim with facility, they are often found at a great distance from land. When they swim, it is usually in a reversed position, the foot being turned upwards; this is made concave by muscular action, so as to serve as a kind of boat, the buoyancy of which keeps the animal at the surface without effort. This order is a very numerous one, and some of its species attain a considerable size; but, from their habits, little is known of them.

Order III.—Inferobranchiata.

The few Molluscs contained in this order differ but little from the last, except in the position of their gills, and their incapability of swimming. They are, therefore, confined to the sea-shore; where they subsist, as do the Nudibranchiata, upon sea-weeds and other aquatic plants.

Order IV.—Tectibranchiata.

This order begins to show an approximation towards that disposition of the gills which characterises the great bulk of the class; the animals composing it are marine, and live chiefly on the shore or on floating sea-weeds. A very characteristic example of the order is the *Aplysia*, commonly termed Sea-Hare, which is abundant on many parts of the British coasts. Its vernacular name is probably derived from the peculiar form of the superior pair of tentacula, which are flattened and hollowed, like the ears of a quadruped. The head has a very distinct neck. The branchiæ consist of leaflets arranged in a complex form, and situated on the back, beneath a fold of the mantle, which also encloses a flat horny shell. The digestive apparatus is very complicated; consisting of a membranous crop like that of birds, a gizzard having cartilaginous walls, and a third stomach beset with sharp hooks in its interior. These animals feed on sea-weed. They are very sluggish in their movements; but have a peculiar means of defence, consisting of a deep purple liquid, which they can discharge from the edge of the mantle when alarmed, and by which the surrounding water is discoloured, so that they cannot be discerned.

Order V.—Heteropoda.

This is a very small order; but the animals contained in it differ remarkably from all other molluscs. At the edge of the vertical muscular plate, which has been mentioned as occupying the position of the foot in the other Gasteropoda, is a small conical sucker, by which the animal can attach itself, and which represents the expanded disc of other orders. The gills are placed on the back, and close behind them are the heart and liver, which seem, as it were, external to the body. In one of the few genera which the order contains, these parts are protected by a small shell, whilst in another there is none. The body, consisting of a semi-transparent gelatinous substance, enclosed in a muscular envelope, is elongated, and generally terminated by a compressed tail; this body can be distended with [illegible]. The animal swims in a reversed position, the fun[illegible] being uppermost, and the shell depending be[illegible] they are limited to warm latitudes: one species of the Carinaria inhabits the Mediterranean, an[illegible] sionally appears on particular coasts in large nu[illegible] whilst others are peculiar to the tropics, where [illegible] the allied genera also exist. The shell of the Ca[illegible] is interesting, on account both of its extreme [illegible] and fragility, and on account of the strong resem[illegible] which that of the Argonaut or Paper-Nautilus ha[illegible]

Order VI.—Pectinibranchiata.

This order is not only by far the most numer[illegible] the whole class, but contains the animals whi[illegible] be regarded as its most characteristic examples. [illegible] have all two tentacula and two eyes, sometimes [illegible] on stalks, as in the snail. The mouth is prolon[illegible] a sort of proboscis; and the tongue is furnish[illegible] little hooks or recurved spines, which enable it [illegible] down the hardest bodies by slow and oft-repea[illegible] tion. The cavity in which the gills are fixed [illegible] the last whorl of the shell; and in some of th[illegible] there is a tubular prolongation of the mantle, [illegible] the *siphon*, for the purpose of conveying water i[illegible] cavity, so that the animal can breathe without [illegible] its shelter. By the presence or absence of this [illegible] and by the form of the shell, which here app[illegible] bear a sufficiently constant relation with that [illegible] animals, this large group may be arranged un[illegible] following families:—1. Trochoidæ, in which the[illegible] siphon, and which have the mouth closed by an [illegible] culum. Of this the common periwinkle is a cha[illegible] ristic example, though very small in proportion [illegible] pical species. 2. Capuloidæ, which have a wi[illegible] shell, very much like that of the limpets, withou[illegible] culum or notch at the margin for the passag[illegible] siphon. 3. Buccinoidæ, which have a spiral she[illegible] a canal at the end of the columella for the pas[illegible] the siphon; this is sometimes extremely prolon[illegible] in the Murex; and the genera exhibiting this cha[illegible] are all carnivorous in their habits. To this [illegible] belong the animals forming the greatest num[illegible] marine univalve shells preserved in cabinets.

Order VII.—Tubulibranchiata.

The Molluscs of this order construct an irre[illegible] tubular shell, which so much resembles that [illegible] by certain Annelida, as to be scarcely distingu[illegible] from it. They are very few in number.

Order VIII.—Scutibranchiata.

This order is also a small one, containing [illegible] principal genera, which do not differ widely fro[illegible] limpets, except in the disposition of the gills. The[illegible] are very open, without an operculum, and the g[illegible] number are not in any degree spiral. In the *Ha*[illegible] the shell is slightly twisted; and from a fanci[illegible] blance it is thought to bear to the ear of a quad[illegible] it has been called the Sea-Ear. This animal, [illegible] living state, is one of the most beautiful of Gaster[illegible] on account of the variety and richness of its co[illegible] Its shell, when the surface is polished, posse[illegible] pearly lustre, with resplendent metallic hues. [illegible] consequently much sought for as an ornament.

Order IX.—Cyclobranchiata.

The general form of the *Limpets*, which prin[illegible] compose this order, is well known; and the pecu[illegible] in the position of their gills has already been men[illegible] Closely allied to the limpets in general structur[illegible] differing remarkably in the formation of the she[illegible] the *Chitons*, of which some small species inhab[illegible] shores, but which attain to much greater size be[illegible] the tropics. Their shell is composed of a num[illegible] plates arranged behind one another with great r[illegible] rity, and connected by a very complex series o[illegible] ments and muscles, which reminds the nature[illegible] those which unite and move the different segme[illegible] the articulated animals.

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f the interior surface of each valve. In some
ifera, this muscle is single, and in others it is
, the two parts being even at opposite ends of the
Upon this character it has been proposed to
the primary division of the class into orders; but
ssification thus formed is not a natural one, in-
h as it brings together kinds which have little re-
ance, and widely separates others which are
allied.
order to describe the general structure of the
ifera, it will be advantageous to select some par-
r illustration; and the common *mussel* is well ad-
to this purpose. On opening such a shell, it is
hat the two valves are lined by a membrane which
pends with the tunic or *mantle* of the Tunicata.
s divided into two halves along a considerable
f the edge of the valves, but is united near the
end. In some Conchifera, as will be presently
d, the two halves of the mantle are separated
their whole extent; whilst in others, as in the
ata, they are completely closed, with the exception
two orifices for the ingress and egress of water,
are sometimes drawn out into long tubes. In the
), the water enters through a slit in the closed
f the mantle, and passes out by another in its
ourhood; but the water thus introduced is prin-
for the supply of the gills, as the mouth, or en-
to the stomach, is placed at the small end of the
where the mantle is quite open, and can take in
from the surrounding water, which comes into
ntact with it. The gills in all Conchifera consist
r riband-like fringes, fixed to the mantle along
ge of the shell most distant from the hinge. Near

r of Mussel: a, right valve; b, left valve; c, hinge; d, ste-
; e, tentacula; f, foot; g, byssus; h, branchial orifice;
t; k, termination of intestine; l, liver; m, gills; n, adduc-
muscle; o, ovarium.

all end of the shell is seen the stomach, with the
tube leading to it, the orifice of which is surrounded
our tentacula or feelers. To the right of this is
he long and complicated intestinal tube, with the
lying in separate masses amongst its folds.

nearer the large end, the cavity of the shell is chiefly occupied by the ovarium, in which the eggs are formed. Close to this is the powerful adductor muscle, by which the valves can be drawn together with considerable force. The intestinal tube is seen to terminate near the opening at the posterior (or right-hand) extremity of the shell, which discharges its contents, and serves for the exit of the respiratory current.

The foregoing description will apply, with slight variations, to the structure of almost all Conchifera; but we have now to notice two organs, which are absent in some, and in others more largely developed than in the present instance. From the lower part of the shell, passing out between the separate edges of the mantle, is seen the *foot*, a fleshy muscular organ, somewhat resembling the tongue of higher animals, and not containing any hard support, or being protected by any envelope. This foot, which is the only special locomotive organ possessed by the Mollusca of this class, serves a great variety of purposes, sometimes enabling the animal to leap with considerable agility along a hard surface, sometimes being used to bore into the sand or mud, and sometimes serving only to affix the animal to some firm support. From the base of this foot there proceeds, in the mussel, a band of hair-like filaments, forming what is called the *byssus*. These sometimes exist in great abundance, and serve, by being fixed by their extremities to the shore or bottom of the sea, to anchor the shell, and yet to allow the animal considerable freedom of motion within certain limits. Frequently the byssus is altogether absent.

The Conchifera have usually more power of locomotion than the Tunicata. Some of them, however, as the oyster, are attached to one spot during all but the earliest period of their lives. Others adhere by the byssus, or by the foot, by which they obtain a certain range; and others are free during the whole of their lives, swimming and leaping with considerable agility. In these movements some of them appear to be directed by powers of sight, and in these are perceived small red spots at the edges of the mantle, which are believed to be eyes. They do not appear to have much choice of food, nor are they provided with any other means of obtaining it than the ciliary action, which introduces constant currents of water into the mouth. In general they do not attain any great size, but they are on the whole larger than any Molluscs except the Cephalopoda; and a few species attain considerable dimensions—a *Pinna* having been known four feet long, and a *Tridacne* (Giant Clamp-shell) having been known to weigh 600 lbs. They are distributed over the whole globe, principally frequenting the shores or shallows. Each region has certain species peculiar or most abundant in it, and there are few which are not limited to one hemisphere. The temperate zone appears as favourable to the development and multiplication of some species as the torrid zone to others; but the largest kinds are only found in warm latitudes.

In the subdivision of this class into orders, the degree in which the two lobes of the mantle adhere along the margin of the shell, is the character chiefly rested on; the presence or absence of the foot, and of the byssus, also, are important characters; and along with these the structure of the hinge should be attended to. On these grounds, the five following orders are established by Cuvier:—1. Ostraceæ, the *Oyster* tribe, in which the two halves of the mantle are separated the whole way round, or the foot absent or very small: they are usually fixed by the shell to solid bodies. 2. Mytilaceæ, the *Mussel* tribe, in which the mantle remains open in front (at the end where the mouth is situated) and closed behind, an aperture being left for the egress of the fluid. They have a foot strong enough to crawl by, and commonly affix themselves by a byssus. *3. Chamaceæ, or Clamp-shells*; in these the mantle is closed, with the exception of three apertures, two of which are for the ingress and egress of water, and the third for the passage of the foot, which is here usually more powerful. 4. Cardiaceæ, or *Cockle* tribe, in which the mantle is not only closed, but extended at spiratory apertures into tubes of greater or les The foot is very strong. 5. The Inclusa, in wh mantle has only one opening for the passage of t at the posterior end it is prolonged into tubes length, that can be extended far beyond the sh the common *Solens* or Razor-Shells.

Order I.—Ostraceæ.

The Ostraceæ, of all these orders, exhibit the approach to the Tunicata, both in the absence foot, the entirely fixed condition of the body, an low grade of their organisation in general. T itself is usually fixed by adhesion to other ma a few, the animal is attached by a byssus; a species, which are unattached, have a slight p changing their place, by suddenly closing the and squirting out the water that was between t the true *Oysters* there are no teeth in the hing is held together by the ligament only. Several exist, some of which are as abundant in tropical as the common Oyster of temperate seas is on th of Britain. Their continued abundance, notwi ing the large quantities constantly being cons less surprising when we reflect upon their ast fertility, as many as 1,200,000 eggs having b tected in a single individual. The *Pectens* have like that of the Oysters, but differ in having the of the valves raised up into ribs, and in hav angular projections, commonly termed ears, sides of the hinge. Many of them are very c coloured, and they are the most active of th order, being entirely unattached, and swimmi greater quickness than would have been expect their imperfect means of locomotion.

The foregoing tribes of Ostraceæ, and man which might be enumerated, are distinguished presence of only one adductor muscle; in the re of the order, as in most other Bivalves, there second. Among these may be first mentio *Etheria*, which is a sort of fresh-water oyste *Aviculæ*, which furnish the greater number of th so highly prized as ornaments, are commonly *Pearl Oysters*, from their general resemblance same tribe. The valves are extended into ears o on each side of the hinge; and these are frequent long on one side. The pearl is produced from th substance as that which lines the shell, and w commonly known as mother-of-pearl. It seems to result from some irritation of the mantle, causes it to excrete an unusual quantity of pearly at one spot; and grains of sand, or other small pa which, by getting between the membrane and th seem to have caused such an irritation, are often in the centres of pearls. Sometimes, again, pe found at points where the shell has been pierce boring animal; and it has been proposed to ca formation of pearls by perforating the shell; b pearls so produced seldom have that regularity form which is as important to their value as size. Pearls are also produced within many other The *Pinnæ*, or Wing-shells, approach the Mu many respects; they are remarkable for the len silky character of the byssus by which they attac selves to rocks, and which is collected in the M rranean for the manufacture of gloves and other for which it is well adapted by its strength an bility.

Order II.—Mytilaceæ.

The order Mytilaceæ is well represented by t mon *Mussel*, which has been already describe various species of this group are extensively d and from their abundance in particular localiti their palatability, they serve as important art food. Belonging to this order are some rem boring shells, which have the power of penetrati rocks, and making deep holes, which are enlarged advance, in accordance with the growth of the

ı, therefore, they cannot quit. By what means mplish this is unknown. The flattened form ll is a sufficient proof that it is not by mecha- on, as in some of the boring shells of the order

The *Anodon* is a fresh-water mussel, closely general conformation to those inhabiting the liffering remarkably in the absence of teeth in , whence the name of the genus is derived. is another fresh-water genus, having a more ed hinge. It is remarkable for the pearly the lining of the valves, and for producing arls, sometimes in considerable abundance. not so pure in their colour, however, as those icula, and are but little esteemed. Some spe- nio are common in the lakes and rivers of ut the greater number are peculiar to North ; many of these are remarkable for their size ır. There are some marine Mytilaceæ allied ios, one of which burrows in coral.

Order III.—Camaceæ.

der Camaceæ includes but a comparatively nber of species, most of which are peculiar to limates. The most remarkable is the *Tridacna* Giant Clamp-shell, of the Indian Ocean. When is animal attaches itself to rocks by means of ous foot, which serves as a sort of byssus; but shell becomes so massive that it is in no danger , it detaches itself, and the groove of the shell p. These animals, with their shells, sometimes e weight of many hundred pounds. Smaller s are often brought to this country; the valves d to receive water from small fountains, &c.; he continent, they are employed as reservoirs ater in the churches. The foot has a structure that, to separate the shell attached by it, it is to chop it with a hatchet like a cable.

Order IV.—Cardiaceæ.

animals of the order CARDIACEÆ, or *Cockle* usually find greater activity than in any others ss. The foot now comes to be a very impor- ın, possessed of great muscular power, and f being applied to a variety of uses. Many of mals bury themselves in sand or mud; and it e that we find the respiratory orifices prolonged es. In the common Cockle, however, these ı scarcely be said to exist, the orifices not being l beyond the shell. Its foot is very large, and ent nearly double in the middle; by doing this, suddenly straightening it, the animal is enabled considerable leaps. The hinge is very beauti- structed; and the two valves lock closely to- The *Trigonia*, a very interesting genus, abun- ormer ages of the globe, but now restricted to es of New Holland, seems allied to the cockle tructure of its hinge and shell, in the size of and in its general organisation, although its ı divided into two lobes along the whole margin lves, as in the oyster. This is an instance of opriety of basing our classification on any single rs. There are other Cardiaceæ which obvi- nduct towards the next order. Such is the of which the valves, when closed together, gape sterior extremity; and through this passage es out two long tubes which terminate in the l orifices and funnel. These tubes have an ructure, and can be entirely drawn within the These long tubes are seen also in the *Venus* and , of which one species is remarkable for the ies which guard its posterior end; and also in *tra*, and the animals allied to it. In some cases s are united along their whole length, and ap- e single; but they are always in reality double. animals are in the habit of burying themselves ir mud, or in stones; and the tubes serve to s fresh water from the entrance of their bur-

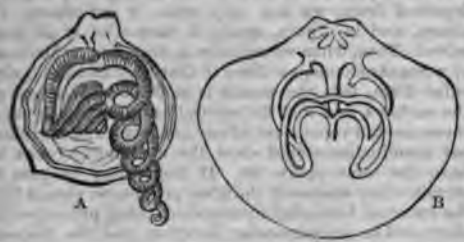
Order V.—Inclusa.

In the order Inclusa we usually find the valves, when joined together, presenting more or less of a cylindrical form, as in the common Razor-shell. A hollow is left at each end, and from one the foot is projected, through a passage in the mantle, whilst the other gives exit to the respiratory tubes, which are often prolonged to a great length. The animals live almost uniformly buried in sand or mud, in rocks or wood. The *Solen*, or Razor-shell, is a very characteristic example of the order, which contains, however, some forms that depart very widely from it. The foot, which can be projected from the lower end, is firm and pointed, and serves as an admirable boring instrument, by the use of which the animal can burrow in the sand with great rapidity, sinking very deep when alarmed. The *Mya* approaches, in the form of its shell, and in its general organisation, to the previous family; but some of its species also closely approximate the Solens. The *Pholas* is a very interesting genus, the animal of which nearly resembles that of the Solen, whilst the shell is formed of several pieces, and would thence be called a *multivalve*. There are two principal portions, and a variable number of accessory pieces. Some species of this genus bore in mud, others in rocks, and a few in wood. Their action seems purely mechanical. They fix themselves firmly by the powerful foot, and then make the shell revolve; the sharp edges of this commence the perforation, which is afterwards enlarged by the rasp-like action of the rough exterior; and though the shell must thus be constantly worn down, yet it is replaced by a new formation from the animal, so as never to be unfit for its purpose.

We now pass on to some very remarkable forms of this order, in which the bivalve character of the shell gradually disappears, being replaced by a new structure of which no examples have been yet seen. The *Teredo*, or Wood-worm, as it is commonly termed, is an animal of the same general organisation as the Pholas; but its valves are smaller in proportion to the body, and its tubes still more prolonged—at least when the animal may be regarded as full-grown. By means of the mechanical action of its valves, it perforates timber, in the same manner as the Pholas penetrates stone. As it advances, the respiratory tubes are prolonged, so that their orifice remains at the entrance of the burrow, which is very small in proportion to the cavity formed by the animal as it increases in size. This orifice is furnished with a pair of valve-like shelly plates, termed *palmulæ;* by the action of which a current of water is driven towards the body of the animal, in order to serve for its respiration, and at the same time for the supply of its food. The gallery is lined by a calcareous exudation from the surface of the tubular prolongation of the mantle, which forms a kind of secondary shell. The Teredo is an animal extremely destructive to timber, especially in warm climates, from which it seems to have been originally introduced into the seaports of Europe. In other genera the valves are lost in the shelly tube, so that the ordinary structure of the class is no longer apparent.

Besides the orders now described as composing the class Conchifera, there is a very curious group which should also be included in it, although established as a separate class by many naturalists. This is the group of BRACHIOPODA, containing only three genera at present known, namely, *Terebratula, Lingula, and Orbicula;* but formerly of much greater comparative importance. These animals have all bivalve shells, differing in no essential particular from those of the Conchifera in general. The two former genera are attached, however, by a footstalk proceeding from an opening in one of the valves near the hinge, to solid substances; and in this respect they have an affinity with the Tunicata. The Orbicula is attached, like an oyster, by one of its valves. They bear considerable resemblance to the Tunicata, also, in the structure of the nutritive system—the digestive apparatus, heart, gills, &c. But

in the complexity of the muscular apparatus provided for giving motion to the valves, they much surpass the highest of the other Conchifera. There are not only several muscles provided for the closure of the shell, but another set to open it—an organisation which no other Bivalves possess. The most peculiar part of their structure, and that from which they derive their name, consists in the presence of two very long arms or tentacula, between the origin of which the mouth is situated. These can be projected to a considerable distance from the shell, or drawn in and coiled up spirally within it. They do not appear, however, to seize upon prey; but rather, by means of the cilia with which they are fringed, to create currents which may bring food to the mouth. In the Terebratula, these



Terebratula:
A, valve with the spiral arms; B, valve with arms removed.

arms are affixed at their bases to a very curious framework within the shell, the use of which is uncertain; but it is believed to aid, by its elasticity, in separating the valves from each other. This framework is most complex in the species in which the arms are shortest. The species of Brachiopoda at present known, live at great depths in the ocean; and many of their peculiarities seem to have reference to that particular condition. They are distributed through all latitudes.

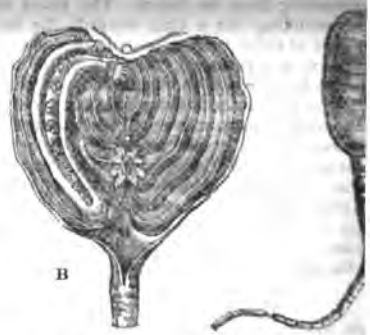
CLASS XVIII.—TUNICATA.

The lowest and simplest of the molluscous classes is that to which the name of Tunicata has been given, in order to mark the peculiar structure of the animals composing it. They bear a general resemblance to the animals which form bivalve shells, but are of inferior organisation. They are peculiarly distinguished from them, however, by the entire absence of any shelly envelope; and by the possession, instead of it, of a *tunic* or external coat, of greater firmness than the rest of the structure, which surrounds the whole body and affords it protection, besides being the medium of its attachment to the fixed substances upon which these animals usually rest. This external tunic is extremely variable in colour, consistence, and form. Sometimes it is dark, and of leathery toughness; sometimes even cartilaginous; and in many species it exudes a glutinous matter, by which particles of sand, gravel, comminuted shells, &c., are attached together, so as to form an additional envelope, which possesses great firmness. Sometimes, on the other hand, the whole body is extremely soft and delicate in its structure, and the tunic is a thin transparent membrane, the colour of which depends upon the intensity of the light transmitted through it.

The greater number of the animals of this class are attached, during the principal part of their existence, either to each other or to solid bodies. In a few species, a number of individuals are united by a stem which contains vessels establishing a connexion amongst them all; so that they closely resemble the compound Polypifera. More commonly, however, the Tunicata live in societies, each individual being distinct from the rest, but a number adhering together to form one mass, which is often enclosed in a common envelope. In other instances, each animal is completely separate from the rest, although a number are found in the same locality. Where this is the case, the animals are severally fixed to rocks or other solid masses, either by the of the tunic itself, or by a sort of footstalk from it.

The *tunic* is always provided with two orifi are sometimes placed near each other, and times at the opposite extremities of the body. these orifices serves for the entrance of wate cavity of the mantle, the other for its exit. bulk of the body may be considered as a re chamber, that is, a cavity lined with a membr which the blood is plentifully distributed, in o it may be exposed to the action of the air ent the water introduced into it. Accordingly, a current of water is maintained by the action of (minute, constantly vibrating, hair-like filamen clothe the lining membrane; and this curr serves to supply food to the inactive creatu produces it. The true mouth, or entrance to that leads to the stomach, is situated at the b the *branchial sac*, or respiratory chamber; an the water introduced into the latter passes stomach, and after traversing the intestinal c parting with whatever nutritive materials it e is ejected from the second orifice of the tunic, stream that has merely passed over the re membrane.

In these actions nearly the whole life of cata appears to consist. Those which are a rocks have no power of changing their place attached; and those which float in water, ei or adherent to one another, seem to have n locomotion, except what they derive from th just described. The only other movement noticed, is the contraction of the whole sac, w place when the animal is irritated in any water contained in it being violently ejected.



Ascidia Australis: A, external aspect; B, interna

The accompanying figure will give a gen the structure of one of these animals. O hand it is seen in its natural condition, with footstalk; the two projections on the righ short tubes terminating in the orifices by w is introduced and expelled. On the left hav the interior of the sac, which has been laid seen to be nearly empty, the intestinal canal side occupying but a small proportion of and the membrane lining it is disposed in fo are traversed by blood-vessels, so as to greatest extent of surface to the action of by the air contained in which the vital fluid The orifice by which the water enters this called the *branchial* aperture, because it is the admission of water to the *branchiæ*, or that through which it passes out is called th vent.

The division of this class into orders is ma torily based upon the relative position of orifices, which have a close relation with th life of two groups of animals respectively ASCIDIÆ, the two orifices approach one an

ngth of which varies from five to fourteen inches, tremely vivid.

SUB-KINGDOM—RADIATA.

e general fact, that, in every complete natural p, there are some members which exhibit most ly its characteristic peculiarities, whilst there are s in which these cannot be distinctly traced, or are ether obscured, is nowhere more evident than we compare together the different classes which associated into this sub-kingdom. For whilst in we find the *radiated* arrangement of parts almost ably preserved, and, if left at all, only slightly rted from, we can only trace it indistinctly in s, and in others, again, it cannot be at all per- d. Thus, when we examine a Star-Fish, a Mollusk, Sea-Anemone, we observe that they all have a cir- r form, that the mouth is in the centre of one of urfaces, and that the several parts arranged round are but repetitions of one another; and an inter- examination would shew the contained organs to the same character. If from these we pass to ain other species of the same groups, we should find external form slightly modified, being prolonged or toned in one particular direction, and the disposi- of the interior organs no longer radiated. Again, e Sponges, all trace of a circular arrangement of s disappears. Yet these, and other groups in which radiated type is equally absent, must be associated the classes more characteristic of it, on account of general conformity of structure, and in some in- ces their very close alliance with them.

oreover, in comparing the different forms of this p, we see exemplified another general principle, ely, that the *aberrant* members of it—those which rt most widely from its regular type—connect it other groups. For, among the species in which radiated arrangement is obscure, we find some that lost us towards the Mollusca, and others that lead o the Articulata; whilst in the Sponges and Coral- we have an evident approximation to the vege- e kingdom. So close, indeed, is this approximation, there are many beings of which the true character t in doubt; they live, and grow, and multiply, very h in the manner of plants, and it cannot be ascer- ed with certainty whether the feeble motions they hibit are to be regarded as spontaneous or not.

he great diversity, not only in form, but also in de- of organisation, that exists amongst the Radiated es, prevents much being stated of their general acters that shall be applicable to all of them. Thus, ough the skeleton is external in some species, as Sea-Urchin and Star-Fish, it is internal in others, he Corals and some of the Jelly-Fish. Although of them have a distinct mouth and stomach for reception of aliment, others imbibe it, like plants, by absorption through their exterior. Although e exhibit a high degree of sensibility, others are so hetic as scarcely to manifest any feeling of injury n severely wounded.

he class POLYPIFERA, containing the coral-forming nals, may perhaps be regarded as the most cha- eristic of the group. These animals usually asso- themselves together into compound masses, of h every part is capable of existing independently e rest, and each polype exhibits in itself the radi- structure, which cannot be detected in the entire s; but all have a certain degree of connexion with other, which may be compared to that existing ng the different buds of a tree. Even the species h do not form solid structures, such as the Sea- mone, remain almost constantly attached to the e spot.

he ACALEPHÆ, commonly termed Sea-Nettles, or y-Fish, have no such tendency to aggregation, and never attach themselves to solid bodies, but wander arge through the ocean. By these characters, and

by their extreme softness, these animals are readily distinguished.

The ECHINODERMATA also live solitarily, and have the power of free movement, except in a few species which approach the Polypifera; but they are readily distinguished from the Acalephæ by the density of their texture, and especially by the roughness of the integument, which is usually beset with prickles or spines, as in the Star-Fish and Sea-Urchin.

In the two following classes, no distinctly radiated structure can be seen:—

The POLYGASTRICA, which are ordinarily known as Animalcules, are beings of extreme minuteness and general simplicity of structure. In the absence of distinct organs for the various purposes of the economy, they correspond with the lower Radiata, but they differ in the extreme activity of their movements. A separate division of the animal kingdom might almost be formed for them alone, so difficult is it to assign them any place in the ordinary scale. Some of them exhibit a tendency to associate into compound structures, like the Polypifera.

The PORIFERA, or *Sponge* tribe, are of all animals those which approach nearest to plants, in the absence of the characters peculiar to the kingdom in which they are placed, and in the want of definiteness of form. Certain movements exhibited by them, however, and their close affinity with some of the Polypifera, render it proper that they should be classed among animals.

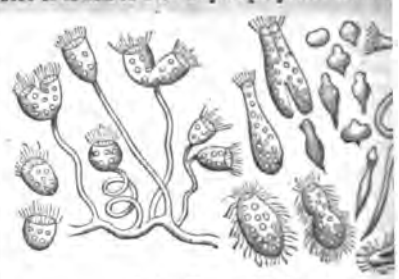
CLASS XIX.—POLYGASTRICA.

This class includes the greater part of those minute beings termed *Animalcules*, which have been, from the time of the discovery of the microscope, such fertile sources of wonder and delight, both to those who have themselves observed them, and to those who have heard from others of their marvels. Previously to that epoch, it was not suspected that beings existed of such minuteness as to be invisible to the eye, much less was any idea entertained of the extreme smallness of many species; and still more improbable and absurd would the statement have been deemed, that such beings are not of rare occurrence, but abound in every drop of stagnant water, and even exist in the whole mass of the ocean. Yet such has been shown to be the fact, and every improvement in the powers of the microscope has enlarged our ideas of the extent of animal life in the fluids of the globe; so that the philosopher is now ready to admit no limit to the possible minuteness of living beings, but looks to still further improvements in the microscope as a means of extending his acquaintance with them, and not as likely to set any bound to his inquiries.

Animalcules may be obtained without difficulty for microscopic examination during the warmer part of the year, by skimming the surface of ponds, especially those in which the water exhibits a red or green tinge, or in which it is covered with duckweed, or with the slimy film which may often be noticed. Many curious species frequent these situations; but the commoner ones may be obtained with even less difficulty, by placing soft vegetable matter, of almost any description, in vessels with water, and exposing the mixture to the sun and air for a few days. As soon as decomposition begins actively to take place, Animalcules may be detected in the fluid, and in a short time they often crowd it most densely. These are generally at first of a simple kind; but new species soon prevail, and those first seen disappear. Different kinds of vegetable matter seem to favour the development of the different species; and there are some Animalcules that can be produced in no other way than from an infusion of some particular substance. Asparagus stems that have been boiled will favour the production of Animalcules, with perhaps as much readiness as any vegetable matter; hay, chopped straw, the leaves of plants, and other common ingredients, may also be advantageously employed.

In the class Polygastrica are included all the most minute species of true Animalcules, and s
the larger ones; but as a whole, the beings
it are smaller than the Rotifera, and far s
those of any other class. The largest amon
but with difficulty seen by the naked eye,
dimensions of the smallest the mind can scr
an adequate conception, although they ma
rically stated. The class takes its name fro
entertained by the celebrated Prussian natu
renberg (who has devoted almost his whole
study of the microscopic forms of existence
animals composing it may be characterised
session of many distinct stomachs or dige
There is some doubt upon this question, how
which can actually be seen will be presen
and it will be preferable to enter no furth
question in this place.

The bodies of these Animalcules are of ver
sistence, and very transparent; so that they
flakes of very thin jelly. Their forms are
variable; and, in some species, the same in
different times alters its shape so complete
could scarcely be recognised. Indeed, many
have occurred from this cause. The softn
tissues of the Polygastrica is also seen when
ming, they encounter an obstacle; there seem
any limit to the change of form to which
submit, in order to pass the obstruction. Th
all so flexible, however; for in some species
is enclosed in a siliceous sheath of very grea
which gives support and protection to the
delicate structures it contains. It is the acc
of such sheaths that has given rise to the coll
Fossil Infusoria (as they have been termed),
be hereafter noticed. Sometimes the whol
contained within the sheath; whilst in other
sort of trunk or foot may be projected from it



Various Forms of Animalcules.

The bodies of the Polygastrica are usuall
with cilia, by the vibrations of which they ar
in their own movements, and also in the acq
of their food. Sometimes these cilia are dispo
the whole extent of the edges of the body; in
stances they surround the mouth only, and f
part they are seldom absent.

For some time after the discovery of the Inf
was supposed that they must obtain their nutr
absorption through the substance of their bo
no mouth, stomach, or alimentary tube, could
discerned. But, by placing them in water,
which very small particles of colouring matt
as indigo or carmine) were diffused, it was p
that these particles are introduced into the in
the body, and are collected in cavities hollow
the general mass. And, subsequently, the i
powers of the microscope have enabled an ent
the interior of the body or mouth to be discer
almost every instance, and a second orifice in
derable number of species. The mouth is o
furnished with a border of cilia, and sometim
set of projecting bristle-like teeth, which are
laying hold of smaller Animalcules, on which
sessor of this apparatus feeds. The introdu
food into the cavity of the body in those speci
are destitute of this appendage, may be best wa

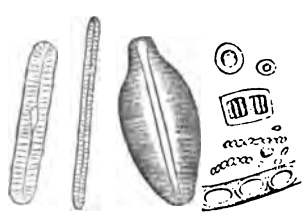
; colouring particles through the water in which nalcules are swimming. They are seen to be nto the mouth by the vortex or whirlpool oc- l by the action of the cilia; and soon after ; it, they are observed to be united together into ınd balls, as if they had been compressed in a herical cavity. These balls are sent one after :r into the general cavity of the body, where m to lie in the midst of a soft gelatinous pulp, rhich they perform a slow revolution—the fore- es escaping at intervals from the second orifice, ew ones are being pushed in from the mouth

s all that can as yet be certainly stated in regard ligestive apparatus of the Polygastrica; since ion of Ehrenberg, that the whole body is occu- a series of small distinct globular cavities or s, connected by an intestinal tube, is not adopted r naturalists. Nothing will therefore be said of ification of these Animalcules, which is princi- ased upon characters furnished (according to) by the arrangement of the stomachs.

largest species of the Polygastrica probably xceed 1-20th of an inch in length; the smallest ent known are about 1-2000th of a *line* in r; but there is no reason to suppose that this y means the limit of minuteness. They usually ' by spontaneous division, the body of the parent ; into two or more parts, each of which soon ı a perfect being, capable of going through the rocess. From observations which have been ɔon the species in which these changes are most effected, it has been calculated that, under the ?ourable circumstances as to food, temperature, ıundred and forty million millions may be pro- ı four days—a degree of fertility which assists in ng the almost universal diffusion of these Ani- s, and their sudden appearance in countless

deas of the vast amount of animal life existing lass have lately received a considerable exten- the discovery that their remains, minute as they unfrequently accumulate into masses of great

It is only of those species in which the bodies ?red with an envelope containing earthy matter, remains can be thus preserved; and the sub- formed by their aggregation seems to be an ble powder, such is the minuteness of each .* Such substances have long been known arious names. One is the Tripoli, or Rotten- ıse in the arts for polishing metals. Another liceous meal which has been used in Sweden,



ossil Remains of Animalcules, forming Tripoli.

ınt of its supposed nutritious qualities, mixed l with flour and the inner bark of trees, in times ity. Both these, as well as many other sub- consist entirely of the siliceous shields or en- of Animalcules, closely allied to, if not identical ecies at present existing; and the quantity of matter which is dried up in the latter, and nay be determined by the effect of heat (this ng the animal portion and leaving the siliceous ı unchanged), is sufficient to account for its ıs properties.

* larger species more than 180 millions are estimated nly a grain.

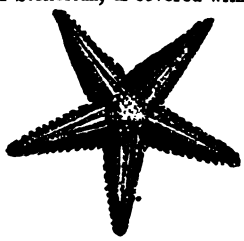
CLASS XX.—ECHINODERMATA.

The class of Echinodermata, comprehending those well-known animals, the *Asterias* (Star-Fish), and *Echinus* (Sea-Urchin), takes its name from the prickly skin with which most of the tribes it includes are provided. But this is not an universal character; for some of the species, which border upon other groups, have a skin destitute of any appearance of spines. There is little difficulty, however, in distinguishing the animals of this class from all others, for in nearly the whole of them the radiated structure, or the arrangement of parts in a circular form, is very evident; and they are the only animals among the Radiata which have the power of moving from place to place, and have at the same time an integument firm enough to resist pressure.

Although the character and degree of organisation in the different subdivisions of this class may be regarded as about the same, the form of the organs, and the mode in which they are arranged, are very different, so that it will be better to describe each group separately. The class may be distributed into three orders; the Stellerida, including the Star-Fishes and their allies; the Echinida, including the Echinus and its allies; and the Holothurida, a group less commonly known, and differing much from the others.

Order I.—Stellerida.

The common *Asterias*, or Star-Fish, which may be taken as a type of the order Stellerida, is covered with a tough leathery skin, beset with prickles. The animal has the form of a star, with five or more rays springing from a central disc. In the middle of one side of the disc is situated the mouth, and this side, according to the usual habits of the animal, must be considered the lower one. The mouth opens into a globular stomach, which sends out prolongations into the several rays, but there is no intestine in this animal, nor any second orifice to the digestive cavity, so that the indigestible parts are rejected by the mouth, as in the Sea-Anemone.



Asterias: upper surface.

If the tough prickly skin be removed, it is seen that it is supported by a series of bony plates, beautifully jointed together. Along the under side of each ray, the plates exhibit a series of perforations, through which there issue, in the living state, a large number of minute tubes, which may be occasionally seen projecting on the outside. These tubes are termed the *feet*, on account of the use to which they are subservient. Every one of them is connected, on the interior of the shell, with a small vesicle or bag, which is capable of being distended with water by a system of vessels adapted to the purpose, and of contracting so as to force its contents into the tube. The tube consists of a delicate elastic membrane, covered with two layers of muscular fibres, the one circular, the other longitudinal, and furnished with a sucker at its extremity. When distended with water, the tube projects from the body; and, if the sucker be then applied to any moveable substance, it will be drawn towards the body by the elasticity of the membrane, when the distending force is relaxed. Although each sucker is small and weak, the combined efforts of many give the animal considerable power, not only of drawing prey towards the mouth, but of moving its own body from place to place.

The order Stellerida includes a large number of forms, having a general resemblance to the *Star-Fish*, but differing much in the relative proportion of the body and rays. Thus, in some species, the arms seem to make up the entire animal, no central disc being present, save that formed by their union. In others, the arms appear simply appendages to the central disc, to which the stomach and other important organs are

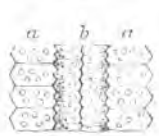
confined. In some instances, the arms send off lateral appendages; and these occasionally again subdivide, so that a branch-like structure is produced, such as we find in the *Comatula*.

A very remarkable tribe, included among the Stellerida—once a group very important in its numbers, and in the extent of its diffusion through the sea, but now presenting only two or three comparatively small species—is that known under the name of *Crinoidea*, or lily-like animals. These are formed much upon the plan of the Comatula, but they are attached by a jointed stalk to solid substances, usually to the bottom of the sea. They thus remind us of the Polypifera, which they seem to connect with the Echinodermata. This group contains two principal subdivisions—the *Encrinites* and the *Pentacrinites*. The former are distinguished by the roundness of their stems, the joints of which being flat and perforated in the centre, are known under the name of wheel-stones, or St Cuthbert's beads. The latter have pentagonal stems. The former seem to have been the most ancient.

Order II.—Echinida.

In the Echinida we find the body usually of a somewhat globular shape, and enveloped in a firm shell, composed of a very regular series of plates jointed together. In the Echinus, the shell of which is commonly known as the Sea-Egg, we observe two orifices situated at the poles, as it were, of the globe. The larger of these orifices is the mouth: at the smaller one the intestinal tube terminates. The mouth, as in the star-fish, is generally directed downwards. It is furnished with a very curious apparatus of teeth, which are worked by powerful muscles, attached to projections of the shell, that may be seen on the inner margin of the mouth; and their points can even be protruded beyond the mouth, so as to lay hold of prey brought to them by the long tubular feet. By the action of the teeth, the food is ground down before it passes into the intestinal tube, which is here of considerable length, and takes a couple of turns round the shell before its termination. Round the second orifice of the shell are disposed the ovaria, which are very largely distended with eggs at some seasons, and are eaten under the name of the *roe of the sea-egg*.

It is the exterior organisation of these animals, however, that presents us with the greatest sources of interest. On looking at the Echinida in their living state, we see that most of them are covered with spines of considerable size, instead of with such small prickles as the Asterias bears. Moreover, these spines are seen to be moveable at their bases, and their power of motion is due to their peculiar connexion with the shell. Each spine is spread, at its root, into a cup-like form, and the hollow of this cup fits upon a little knob or tubercle projecting from the surface of the shell, so that a complete ball-and-socket joint is formed. The spines are connected to each other, and held on the shell by the skin which covers the latter, and which is attached around their roots; and it is by the contractions of this skin that they are moved.



Shell of Echinus: *a*, tubercular plates; *b*, ambulacral plates.

On looking at the exterior of the shell of an *Echinus*, it is seen that the tubercles are arranged with great regularity, and that the larger ones are confined to particular rows of plates, which are hence called *tubercular* plates. Between these are smaller plates, commonly bearing smaller tubercles, and perforated with a number of minute holes, for the passage of the tubular feet; these are called *ambulacral* plates. The *tubular feet*, like the spines, are *much longer* than in the star-fish. They are always capable of being projected beyond the spines; and, taking an attachment by the s their extremities, they can cause the shell to were, upon the points of these. In some sp spines are five or six inches long, whilst the of the body is much less. The tubular feet of notice on account of their transparency; an mal appears to be walking upon its spines, merely resting upon them as fulcra, and dra forwards by these curious organs. It is to b bered that the body will weigh much less in w in air, and thus may be supported upon spin delicacy.

The structure of the shell itself, and the m increase, are not among the least interesting the history of this animal. The shell is com already stated, of a large number of plates disp great regularity, and accurately fitted together plates are usually of an hexagonal shape, b large and small ones join, there is of course s fication. Now, it is obvious that a shell of glob can only be regularly increased in all its dime the equal growth of every part of it. This is provided for by the interposition of a thin layer brane, from which the shelly substance may sited between the edges of all the plates; membrane also answers the purpose of formin nexion between the skin covering the shell an gans of nutrition within.

These animals are generally found on sandy and especially in little nooks secluded from t influence of the waves. Some of them excavat in the sand by means of their spines, and ca even works its way into solid rock. Their foo mixed quality. Fragments of shells, Crust other marine animal products, are found in t machs, as well as portions of sea-weed. Th their prey whilst lurking in their hollows, by their tubular feet to play loosely in the water and when any small animal touches the suck end of one of them, it is soon secured by the s of others, and drawn within the range of the teeth.

It is not in every species of Echinida that bular form is so well marked as in the Sea-Eg are many in which the shell is more or less and in which one or both the apertures of th tary canal are out of the centre. In these t apparatus is either absent or comparatively f

Order III.—Holothurida.

In the last order of Echinodermata, the Ho we find the characters of the class remarkabl with those of Articulated animals. The bo enveloped in a hard shell, but in an elastic sk tute of spines or prickles. It retains, in som the globular form, but in many it is very m longed, so as to be almost cylindrical, and s semble that of the Worm tribes; and it is of even marked by transverse bands, indicating into segments. Still, however, a distinct conformation may be seen around the mouth of these animals look as if a star-fish were set on the body of a large worm. In the gener mation of the internal organs they correspon Echinida; but they are in some respects more and the respiratory organs are constructed plan of those of the Articulata. They thus fo interesting link of connexion between the Ra Articulated sub-kingdoms.

The skin of most of the Holothurida is so v that they can change their size and form in able degree. They are capable, too, of swim considerable rapidity, and some of them slugs upon solid surfaces. Small species are o found in British seas; but on some tropical s are very abundant, and grow to the length or twenty inches. They are sometimes ea poor on the Neapolitan coast; but in the M pelago they are regularly sought, and con

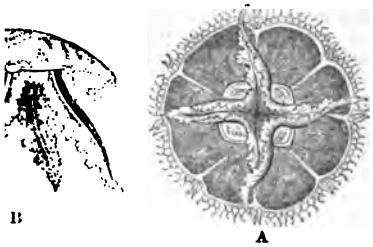
ket, where, under the name of *trepang*, they price.

CLASS XXI.—ACALEPHÆ.

e of the class next to be described, the derived from the stinging power possessed l the animals composing it. The word is erm for *nettles;* and by the designations *tang-fishes*, &c., these animals are popularly ell as by another, also expressive of a cha- hich the group is distinguished—*jelly-fish.* difficult to give any description of the struc- class that shall include all the members of do they vary among each other. They all he Polypifera in being unattached to solid having the power of freely moving through d they differ from the Echinodermata in overed with a dense integument. Their ness is one of their most remarkable cha- me of them attain considerable size, yet ost entire absence of any hard support or indeed, it is only in a few species that any

es of the Acalephæ are so soft, that they like masses of jelly; whence originated n name. They consist of a sort of network aments, the interspaces between which are h water; and so large a proportion does at it drains away when the animal is kept ment for a short time, leaving but a thin brane behind it.

gement of the mouth, stomach, and other ubject to great variation in the different of this class, and we here encounter the able fact, of the existence of animals of ucture and varied powers, which do not regular mouth, but imbibe their food like t-like filaments. Owing to the difficulty of ie structure of beings which can be so im- served, however, the organisation of many curious species is as yet very imperfectly and it will be better to confine ourselves onsideration of those most certainly known. commonest forms of this class is the *Me-* is often seen floating in vast numbers on days at a little distance from the shore. consists of a large umbrella-shaped disc, ler surface of which hang down four broad tacula. Both disc and tentacula exhibit a ul assemblage of colours, like those of the en the rays of the sun are reflected from . On the under side of the disc is seen the ted in the centre, and surrounded by the tentacula. This is the entrance to a sto- lies in the middle of the disc, and is sur- four ovarial chambers, having separate



B A

nder surface, showing the mouth in the centre, sur- he tentacula, and the ovarial chambers exterior to these; B, side view, showing the tentacula hang- their natural position.

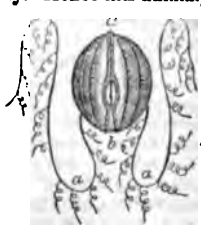
ices. The animal may thus be compared, ve, to a Sea-Anemone detached from its vimming with its mouth downwards. The f the disc extends much beyond the sto- arial chambers (which may be described as occupying the part corresponding to that included between the metallic stretchers of the umbrella), and this broad free margin is endowed with muscular powers, and performs a series of regular undulations, by which the animal is propelled through the water.

The extreme softness of the tissues of these *Medusæ* is an obvious reason why they should not expose themselves to the rough surface of the ocean, where they would be beaten to pieces by the waves—or to the proximity of the shore, from which they would soon receive fatal injury. Although so soft, however, they have the power of mastering prey of much firmer structure, and hard Crustacea, as well as other marine animals of high organisation, supply them with food.

The *Medusa* shares in another property possessed by most of the class, that of luminosity or phosphorescence. It is chiefly to the smaller tribes, accumulating in immense numbers, and so transparent as to escape notice by day, that the occasional phosphorescence of the sea is due. This very beautiful phenomenon may be seen not unfrequently on the shores of Britain; but it is most splendid in warmer seas, especially in the Mediterranean. In the midst of the diffused luminosity, caused by the glow of innumerable multitudes of small Acalephæ, and even of animalcules far smaller, the larger ones shine out like stars in the milky-way. The cause of this beautiful appearance is ill understood. It has been ascertained to exist in a secretion formed from the surface, which can be washed off, and can thus communicate the phosphorescence to various fluids, in which it seems to remain until decomposition has taken place. The light is rendered more brilliant, when exhibited by the animal itself, by any thing which irritates it; and this fact is observed in the case of most luminous animals.

An interesting species, allied in general form to the Medusa, but differing from it in a remarkable particular, is the *Rhizostoma* (root-mouth). No mouth is seen in the centre of the inferior side of the disc, but the stomach sends canals into the substance of the tentacula, which terminate in a number of minute pores at the extremity of those organs. By these small pores, as by the roots of plants, nourishment is absorbed into the system, for the ends of the tentacula fix themselves like suckers upon the surface of the animal they have grasped, and imbibe its juices. These and other Acalephæ which move through the water by the undulations of their membranous disc, are included in the order PULMONIGRADA. All the Acalephæ of this order exhibit a very regular disposition of their parts around a centre, so as to be truly *radiated* animals. Some of them attain a diameter of two or three feet.

Another interesting species of this class is the *Beröe pileus*, a small animal not unfrequently found on the coast of Scotland. When at rest in the water, it looks like a bright globe of jelly, about half an inch in diameter. An opening is seen at each pole of the globe; one of these is the mouth, and at the other the alimentary canal, which runs straight across the body, terminates. Its surface is marked by eight bands, running, as it were, from pole to pole; these bands seem to be of firmer texture than the rest of the body, and on them are placed the rows of cilia, which can act either together or separately, so as to give every possible variety of motion to the body. Hence this animal, and others resembling it, are said to belong to the order *Ciliograda*. The Beröe usually swims, by means of them, mouth forwards, through the water, and thus a current of water is driven into the stomach, without any further effort on the part of the animal. But it is provided with other means of obtaining its food, in two long tentacula, which arise from the posterior part of the body, and are furnished



Beröe: *a*, *a*, tentacula; *b*, mouth; *c*, termination of intestine.

with a number of lateral filaments; these can all be withdrawn and folded into two cavities, excavated, as it were, in the substance of the body, and are easily unrolled when required for use.

A very common form of this class in some climates is the *Physalus*, known to sailors as the Portuguese Man-of-War. This is distinguished by its large air-bag, surmounted by a vertical membrane or crest, which usually floats above the surface of the water, and is acted upon by the gentle breeze, in the same manner as the little sail of the Velella. The animal organs placed below are very obscure in their character. No distinct stomach can be perceived; but the tentacula are dilated at their roots into chambers, of which each may perhaps be regarded as a digestive cavity. Some of the tentacula are very long, and hang down in the water to the depth of fifteen or twenty feet when the animal is floating. They possess considerable stinging power, and probably serve to entrap the food upon which the shorter tentacula, with their sucker-like extremities, then affix themselves, for the purpose of taking up nutriment by absorption. These Acalephæ have been termed *hydrostatic*, from the power they possess of rising or falling in water, by increasing or diminishing the bulk of the air-bag; but by what means they effect this change is not known. In some species, comprehended with the *Physalus*, in the order Physograda, several small air-bags exist, instead of a single large one. These are usually fixed to the same stalk, like currants upon their stem, and this rises out of the apparatus of tentacula, &c., of which the animal may be said really to consist.

Physalus.

The Acalephæ inhabit all climates, but the largest forms are to be seen in tropical seas.

CLASS XXII.—POLYPIFERA.

The animal character of the beings composing the class Polypifera was formerly doubted, as that of the Sponges is at present. The structures which they form, known as Corals, Corallines, &c., have often so much of the plant-like aspect, and sometimes also of an apparently woody structure, that, even in recent times, naturalists have been deceived into a belief in their vegetable nature.

Another popular error in regard to this group, is the attributing the formation of coral to *insects*, and the supposition that it is their habitation, constructed under the same circumstances as the comb of Bees, or the pyramids of the Termites. Now, the real fact is, that the masses of *coral*, *madrepore*, &c., as well as the *sea-fans* and other similar structures, with many smaller and more delicate ones, of which some are ranked among the *sea-weeds*, and others commonly known as *corallines*, are the *skeletons* of the animals by which they are produced, and are to be regarded as parts of the living structure, so long as the flesh which clothes or lines them retains its vitality.

If, for example, the stem of the common *red coral* be examined when clothed with its living flesh, its surface is seen to be scattered over with polypes, the structure of each of which bears some resemblance to that of the sea-anemone; but these, so far from being independent of one another, like so many sea-anemones attached to the same rock, are connected by a system of vessels which traverse the flesh, and bring them all into communication. Nevertheless, any one of these would live if detached from the rest, and would gradually produce others, until a new structure is formed, similar to that of which it was a part. Moreover, if a piece of the gelatinous flesh be stripped from *this* will be competent to form both new poly new skeleton.

Such compound beings, then, of which th only form a part (like the leaves or flowers are not improperly termed Polypifera or Po ing Animals. But there are many kinds which have no tendency to this kind of aggreg which are never found but in a solitary state, the *Sea-Anemones*, and the *Hydra* or fr Polypes. And various degrees of intimacy of between the polypes of compound structure traced in different species; some of these will after noticed.

The class may be divided into four orders terised by four distinct types of structure; these we shall find polypes existing almost or independently of one another; and species cl to these, in which they are intimately assoc the distinguishing characters of these orders understood without a knowledge of the structu polypes belonging to each, it will be better to at once to the description of them, the s popular information on the subject being u shall begin with the one generally accep simplest.

Order I.—Hydrophda.

The *Hydra*, or fresh-water Polype, is a minut often found in great abundance, clustering ro tic plants in stagnant pools. It seems to consist only of a kind of bag, constituting its stomach, round the mouth of which is disposed a circle of long arms or *tentacula*, whilst the opposite end is prolonged into a foot, terminated by a kind of sucker, to which the animal attaches itself. The changes of form in this polype are very remarkable. The body has sometimes the shape of a long cylinder, whilst at others it is contracted into a sphere, the arms having shrunk alike into s jections around the mouth. This appearance rally presented when the stomach is rep food.

Hydra.

The *Hydra* is an extremely voracious anim although little able to move from place to secures an abundant supply of food by its la which serve as so many fishing-lines. When tic worm or insect touches one of them, it is by it, and other arms are speedily brought to ance; so that, by the simultaneous contracti whole, the prey is conveyed to the mouth, even enough to make powerful resistance. Not unf it can be seen to move about violently w stomach for some little time; but the power tive secretion speedily begins to act upon it, a parts are dissolved, the hard ones being usual by the mouth. When this solution has been p the fluid which results from it is seen to be d by a kind of circulation through the walls mach and the arms.

Nothing in the history of the Hydra is s able as its power of being multiplied by div of repairing the effects of other rough treat regard to this, there really seems no limit. can the body reproduce the arms, the mouth r tail, and the tail the mouth; but, from a minut the perfect Hydra is reproduced, so that an cut up into forty or fifty pieces, will be con as many separate polypes. Two bodies, al grafted together by the side, the tail, or in way; and monsters with two heads, two tails be easily produced. It was, in fact, on acco tenacity of life and tendency to reproduction

nce of injury, that the name Hydra (after the ous monster of ancient times) was given to this creature when first discovered about a century The power of any one part to perform the func- of the rest, is remarkably shown by the fact, that olype may be turned inside-out; so that what was e the lining of the stomach becomes the external ument, and vice versa, without its comfort being sibly impaired.

e Hydra is not known to subdivide spontaneously, ever, but it propagates itself by a process resem- the budding of plants. A little knob first projects the side of its body, this enlarges, and from the if it are seen to spring a number of small processes, are the arms. In the centre of these an opening ars, constituting the mouth of the young polype, gradually assumes the form of its parent, and to catch prey for itself. Still, however, the of its stomach communicates with that from which at first prolonged; but the passage is gradually wed, and at last obliterated. When quite inde- ent, the young polype detaches itself from the e, and has no further relation with it. Several of buds may spring from the same polype at once, ded it be well supplied with food, and the tempe- be warm; and a second generation may even themselves upon the first, whilst still continuous the parent structure.

e entire substance of the Hydra is soft, and no seems possessed of greater firmness than the rest. me other species, how- we find a tendency to consolidation of the ex- into a kind of horny or sheath; and when ber of polypes are ated together, a com- l structure is thus pro- . In these compound tures the cells are ected by stems and hes, in the same man- e the buds of a plant; through the base of cell there is a canal

Portion of Sertularia: a, a, polype-cells with polypes; b, b, coastal vesicles.

by an extension of the lining membrane of the e, and uniting with the channels which pass gh the whole structure. Thus, all the polypes are ght into connexion with each other, and with the ral mass or polypary.

ese polyparies, formed by the association of hydra- polypes, are among the most graceful and elegant the structures with which this class presents us. are of minute size when compared with the mas- productions of other tribes; and the uniform ace of stony deposit gives them a degree of flexi- which adds much to their gracefulness. There few shores on which some forms of them may not cked up. They are commonly mistaken for sea- s.

se polypes, being enclosed in cells, do not share in function of reproduction, for which a special appa- s is evolved. A set of horny vesicles (*b*, *b*,), usually h larger than the polype-cells, are developed at in- als from particular parts of the stem and branches; it is in these that the reproductive bodies or gem- s are formed. Each vesicle is provided with a lid, h falls off when the gemmules are mature and y to swim forth; and the vesicle itself afterwards vals and drops away, like the seed-vessel of a plant has shed its seeds. The whole of this process very h resembles the fructification of mosses, in the mode hich it is carried into effect.

he forms of Polypifera allied in structure to the ra, compose an order which may be termed that of oma, or *Hydriform* Polypes. This order is pretty ersely distributed over the globe; not abounding e in tropical than in temperate regions. Scarcely fossil remains of it are to be found.

Order II.—Helianthoida.

A common form of polype, apparently so different from the Hydra that the relationship between them would not have been suspected by an unlearned observer, is the *Actinia* or Sea-Anemone. There are probably no shores over the whole globe, except the very coldest, on which some species of this interesting creature are not to be found. The mouth is in the centre of the upper surface, and is surrounded by tentacula; and these are numerous and arranged in several rows. The under side forms a large sucker or disc; by this a very firm hold is taken of the rock or other surface to which the animal adheres. The stomach does not occupy the whole cavity of the body, but only the central portion; and the space between its wall and the outer integument is divided, by vertical membranous partitions passing directly from one to the other, into a number of radiating chambers, in which the germs of young *Actinia* are produced, and sometimes nearly matured. The tentacula are hollow, and their cavity is continuous with that of these chambers; at the extremity of each is a small aperture, through which water is occasionally taken in, and then ejected with considerable force. This process seems to be of the nature of the action of respiration in higher animals.

Actinia seen from above.

Section of Actinia: *a*, cavity of stomach; *b*, surrounding chambers.

The tentacula of the Sea-Anemone can be contracted in the same manner as those of the hydra, and they are furnished with a sort of sucker at their extremities, by which they can draw towards the mouth any substance which comes in contact with them. Although each seems weak in itself, the combined action of many is sufficiently effectual for maintaining an ample supply of food. These animals are extremely voracious. Not being able to move from place to place in search of particular kinds of nutriment, they are adapted to digest almost any which comes within their reach. Shell-fish and small Crustacea appear to be their usual diet. These are swallowed alive, in spite of their struggles, but are soon destroyed by the powerful solvent action of the juices of the stomach. The hard portions are ejected from the mouth; and, in getting rid of them from its stomach, the Actinia often inverts the lining of the latter through its entrance, so as almost to turn its body inside out.

The powers enjoyed by the Actinia of reproducing different parts which have been removed, and of multiplication by the division of its body, are nearly as great as those already described in the hydra. It may be divided either vertically or transversely, and each part will in time supply what was deficient, and become an entire animal. This reproduction has taken place in some instances from small fragments, but it does not appear that the same number can be reproduced by the subdivision of one, as in the hydra. We do not find here the same process of multiplication by buds, as in the hydra; but distinct germs, or *ova*, are formed in the radiating chambers which surround the stomach (hence called *ovarial* chambers), and from these, as from the eggs of higher animals, new beings like the parent are produced. The development of them may take place whilst yet within the body of the parent; and thus, as the young ones pass out from the mouth, it appears to cast them up from its stomach.

The sea-anemone is not the only solitary polype possessing the kind of structure which has just been de-

scribed. Several other species exist, in which the same type is presented with various modifications.

There are some among them which form a stony deposit in the substance of their base, and in the membranous partitions between the radiating chambers. Of these one small species inhabits the British seas; it belongs to the genus *Caryophyllia*. A very beautiful coralline formation of this description is that produced by the *Fungia*, an animal allied to the sea-anemone, and inhabiting only tropical seas. It consists of a thick round plate, sometimes several inches in diameter, from one surface of which arise thin vertical plates, radiating very regularly from the centre to the circumference. This is, in fact, a single cell of a large solitary polype, and from it the structure of other coralline masses will be understood.

The cells of such solitary polypes are not always round, but are sometimes very much prolonged in one direction, so that the depression in the centre, marking the place of the mouth, towards which all the radiating plates are directed, becomes a long groove. These stony masses contain a considerable quantity of animal matter, by which the particles of carbonate of lime are glued together; and when a sufficiently fresh specimen of a stony coral is submitted to the action of an acid which dissolves these, the animal substance will retain its form.

Mass of Astræa Viridis:
a, *a*, expanded polypes; *b*, *b*, polypes withdrawn into their cells; *c*, stony mass uncovered by flesh.

The number of stony corals formed by the compound Polypifera is very great; and, of the more massive kinds, a large proportion belongs to this order. Those which are to be ranked as the skeletons of animals allied in structure to the sea-anemone, are distinguished by a character very easily recognised. In each cell, however minute it may be, the arrangement of radiating plates, described in the *Fungia*, is seen; and from the presence of these thin plates, or *lamellæ*, the whole of this group of corals and madrepores have been designated as *lamelliform*. A lamelliform coral is, then, always formed by a polype similar to the sea-anemone (or *actiniform*); and thus, by attending to the mode in which the growth of the coral depends upon the structure of the animal, we obtain a valuable character, on which we can always rely.

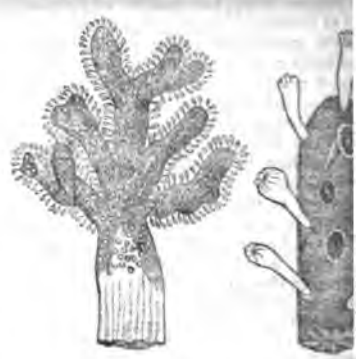
The individual polypes belonging to such structures are connected by a gelatinous flesh enveloping the whole, which seems to answer to the membranous pith lining the stems of the compound Hydroida. It is by this flesh, rather than by the polypes themselves, that much of the stony mass is deposited, as may be seen by examining many species in which the intervals between the cells are considerable. The variety of aspect which these masses present is very great, but there is little difference, so far as is known, in the structure and habits of the individual polypes, which form part of the beings in their living state.

None but *stony* corals are formed by Polypifera of this order; but there are many of that description which do not belong to it, of which we shall speak. However, it is to this order that t part of those species belong which are en erecting the massive structures known at pre the names of coral reefs and islands, as w which appear to have existed in still great in former epochs of the earth's history, as given origin to the greater part of the lime which constitute so large a proportion of known to us. This order may be denomina *Actiniform* Polypes, from the general resem the animals composing it to the sea-anemon *anthoida*, from their similarity in aspect, when to the sun-flower.

Order III.—Asteroida.

The next order of Polypifera is one whic nearly to the form of the Sponge. In the groups we have been last considering, the po an important part of the general structure, a instances each may be regarded as existing itself alone, even where many are united t necting fleshy matter. But in the group treated of, the polypes seem quite subordina general mass seems to have (as in the spo more of the character of a single individual structures we observe, too, that the hard ba ton is seldom so distinct from the living tiss lamelliform corals, the two often passing other by almost insensible gradations. Th the skeleton varies considerably in the differ Sometimes it is of a spongy character, as i *onia*; sometimes of a stiff horny texture, as *gonia*, or Sea-Fan; and sometimes of a ston as in the Red Coral.

The *Alcyonia* are found abundantly on of the British shores, and are known to fi



Alcyonium:
A, portion enlarged, showing the polyp

the names of *dead-man's hand*, *sea-finger* &c., from their flabby texture, and the pec they present. Their structure is spongy, bu usually a more distinct envelope than the tr and this has sometimes a leathery charac interior is traversed by a series of canals, w and inosculate with each other; and, on c the mass, it is observed that nearly the wh composed of a network of these passages, s the animal fibrous tissue, which is sometime into a fabric of considerable firmness. The have no direct external opening, however terminate in prominences of the spongy which the polypes protrude.

The polypes themselves have some res the sea-anemone, but they are usually sm and of more delicate structure. There ar some important differences, upon which th of the order is founded. The tentacula, inst numerous, and arranged in several rows, ar

aber, and form one circle. They are broad, and leaf-like, instead of being round and slender. outh is situated in the midst of them, and leads stomach, which occupies the centre of the body; d the stomach are the *ovarial chambers*, separated iating partitions, but only eight in number. The ch opens into the canal upon the end of which the is placed, and all the fluid which enters the appears to be taken in through these mouths. varial chambers also communicate with the canal ch, indeed they may be said to be a continuation for the partitions between them are prolonged wards into the canal, forming plaits or folds of its membrane, in which the ova or germs are deve-; so that these are produced from the general rather than from the polype, and the whole struc-may be regarded as a higher kind of Sponge.

polypes are capable of being drawn entirely the protuberances on the surface of the *Alcyonia*, ven these projections become flattened when the ds are in a state of great contraction. In this con-they are often left by the tide, and if then placed lass of clear water, their gradual expansion may tched. The protuberances from the surface first themselves, and the polypes, one by one, appear eir summits, and slowly expand their tentacula, the whole surface appears covered with delicate oms. The entire mass then not unfrequently swells ice or thrice its original size. If any one of the es is irritated, it shrinks into its hiding-place, but near it are not affected. If the irritation of the be prolonged, however, those in the neighbourhood ually show themselves influenced by it, and draw selves in; and in this manner the whole mass may timately affected. The same effects, however, may oduced by irritating a portion of the spongy sub-e intermediate between the polypes. From this evident, that sensibility to impressions is not con-to the polypes alone, but that the whole mass must garded as possessed of animal properties.

e *Alcyonia* grow in the same circumstances with ges, and their correspondence is further shown by existence of crystals of silex in their tissue, which not found in other polype-structures, the earthy er in these being entirely calcareous. The diffe-species of the Alcyonia, like those of the Sponges, be distinguished by the form of the spicula pre-ed in the skeleton.

other forms of this order we find the skeleton, rm support, in a more concentrated form. Thus e *Gorgonia*, a beautiful framework of horny mat-consisting of a stem and a minute network of ches, occupies the centre of the structure; and this othed with a soft flesh, through which the channels that connect the polypes together. This flesh is red with a firm skin, in which a great amount of hy crystals is deposited, so as to form a crust; and is are the hollows or cells by which the polypes are ected. In the dead structures, with which we are iliar under the name of *sea-fans*, the dark horny ible stem is seen to be covered in many parts with a tle crust, often brightly coloured, which can be ed off it and crumbled to powder. Between the , in the living state, the fleshy coat existed; the r part of it being in contact with the exterior of the y stem, which was then soft and scarcely distinct n it, whilst the exterior part was consolidated by earthy matter into the firm integument.

n the *Isis*, we find less stony matter on the outside of the flesh, but a deposition of it at intervals in the stem, which thus obtains a jointed character, being flexible at the points at which the horny matter has not been consolidated. And in the *Red Coral*, the entire stem is converted into a very firm stony axis, which presents no indication of polype-cells, these being excavated only in the flesh that clothes it. The *Pennatula*, or Sea-Pen, is an interesting species belonging to the same group, and in some respects resembling the Red Coral; it has a stony axis, but this is flexible at the extremities; and it is not attached by a solid basis, but is carried about by the mercy of the waves. From the central axis, which is nearly straight, a regular series of lateral branches passes off on each side, like the barbs of a feather; and on these the polypes are situated. By the simultaneous movements of their tentacula, the animal (if it is to be called *one*) seems to have some power of directing its course, if not of propelling itself through the ocean. A small species, which is luminous at night, inhabits the British seas.

Single Polype of Pennatula.

Pennatula.

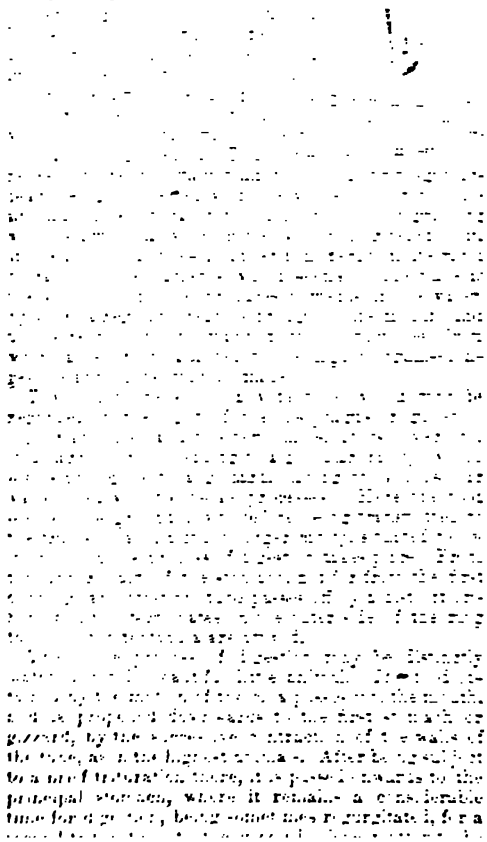
There is one species in this order which differs from all the rest in the consolidation of the exterior rather than of the interior tissue; so that a stony *tube* is formed instead of a central stem. This is the *Tubipora Musica*, of which the skeleton is known as Organ-pipe Coral. The polypes are not here connected by any system of vessels or uniting flesh; each lives for itself alone, but a number (probably all produced from the same stock, and by offsets from each other) unite for mutual support in one structure. Each polype has a cylindrical form, and its exterior membrane is progressively consolidated into a stony tube, which is thus gradually increasing in length by new deposits at its upper end. At certain intervals the soft membrane (which is always projecting beyond the mouth of the tube) is flattened down into a sort of collar, which is consolidated likewise; and the collars of the neighbouring tubes coming in contact with one another, form a sort of floor or shelf, which greatly strengthens the mass. After this collar is formed, the tube is continued as before for another period, when a similar floor is again produced by the simultaneous action of the numerous polypes composing this beautiful structure.

To this order the term of *Alcyonian* Polypifera (from the name of one of its principal groups), may be conveniently applied; it is also known by the designation of Asteroida, from the star-shaped form presented by the tentacula when expanded. Its most luxuriant kinds are natives of tropical seas; thus the *Alcyonium poculum*, or Neptune's cup, which abounds in the neighbourhood of Singapore, is one of the most bulky species at present existing. But the smaller tribes abound in our own seas. No massive stony polyparies are formed by the animals of this order.

Order IV.—Ascidioida.

The last order of Polypifera far surpasses all the rest in the complexity of its organisation; although so little distinguished from them in external form, that a cursory examination would not reveal the points of difference. In fact, many of the species belonging to it have been associated with the *Hydraform* Polypes, by naturalists of eminence; and it is only by means of a high and clear magnifying power that their true structure is capable of being ascertained. The stony character of the polyparies formed by others, has led them to be grouped with the *Actiniform* Polypes; and it is only within a very recent period that opportunities have been afforded for that examination of their living condition, upon which alone reliance can be placed.

The polypes of this order seem more independent of one another than they are in the associated groups of the others; but they are not known to exist in an absolutely isolated condition. A species lately discovered on the



When we consider the vast extent
matter, which are at the present
change in the surface of the globe tha
the theme of astonishment and admi
but be struck with the enormous a
existence that must be concerned in
Much error has prevailed on this su
and in some points exaggerations hav
through superficial observation. But h
every department of nature, the truth

TA.

land, at a distance of usually more than a leagues from the coast. This is above a thousand g; and for several hundred miles has no break ugh to give passage to a ship. It is scarcely ble that a submarine ridge of hill should exist, nd miles in length, and approaching every where o hundred feet of the same elevation; for such s nowhere seen on the dry land. But it is easy us far this remarkable structure, if we suppose ridge was formerly more or less elevated above hese; and that its different parts gradually ncrusted and capped with coral as they were ed, after which the growth would continue e same parts, until the whole, being thus d and covered, became the continuous mass now witnessed. That such depressions *are* ace in some islands of the Pacific, is a fact estab-d, not only by the traditions of the natives, but vations made since they have been visited by ns.

are many instances in which the coral struc-comparatively recent origin have undergone a rphosis, which causes them to lose in some heir original aspect. Large masses, when long to the air, become changed into a solid, often at crystalline, rock, in which the traces of structure are very indistinct, and with which *stain* or *secondary limestone* closely corresponds. bserved in the Bermudas. Moreover, the coral n becomes agglutinated, by the percolation of rough it, into a very hard stone; it is in such hat the human skeleton, found on the shore at upe, and now placed in the British Museum, is d. This stone, when minutely examined, is onsist of a number of rounded grains, cemented, e, together; and it closely resembles the rock o the geologist as *oolite*. Further, where shallow ists around coral islands, the bottom is found ered with a layer of white mud, which is formed decay of the animal matter that held together icles of carbonate of lime in the stony corals, se are consequently set at liberty in a finely-state, and fall to the bottom in a form which, if ld constitute chalk. Thus we may trace, very y, the mode in which the three principal kinds ome rocks may have taken their origin in coral ns.

the mountain limestone, as it is termed—a rock ndant in Britain, extending over large areas the coal-fields, and sometimes exhibiting a thick-nearly 3000 feet—is in some parts evidently d of accumulations of shells, stems of encri-e. But in many others, the remains of corals distinct; and these are so blended with the ring rock as to make it appear probable that r also was once in the state of coral, but was y changed by the process just described. Par-e collections of other animal remains are just we should expect to find on the margin of a f or island existing at that epoch; and a simi-ess of fossilisation is taking place in the shores existing at the present time; the imbedded animals only being different. The great thick-he beds of this rock may be very well accounted he same manner as the depth of the coralline f recent formation.

are observed, in rocks of more recent forma-pearances which still more clearly indicate that o were originally formed by coral-polypes. re often found only within narrow limits, as if been reefs or islands of small size. Thus we one called coral-rag in Oxfordshire; and very coral beds in the crag of the eastern coast of . It is interesting to remark, that the remains which are found in the older limestones, all nd with those at present abounding near the and exhibit the *lamelliform* character; whilst gradually replaced in the newer strata by spe-e allied to those at present existing, to some-

rate climates. This is one of the many facts which tend to prove that this part of the earth had at some former period a much higher temperature than at present.

We see, then, that vast as are the works of the existing species of this class, they are probably far surpassed by the accumulations of former ages, which constitute, in some form or other, a large proportion of the solid rocks of our terrestrial surface. And thus we see the exemplification of a principle which has frequently come under our notice—that in the economy of Nature nothing is insignificant; and that the most gigantic effects may be produced by the multiplication even of the humblest among the living inhabitants of the globe.

CLASS XXIII.—PORIFERA.

Of all the beings usually known under the designation *Zoophytes*, the *Sponges* and their allies, constituting the class Porifera, appear to have the best claim to the title; since they present so complete an admixture of the characters of plants and animals, that it is difficult to say to which division of the organised world they properly belong. Like plants, they are fixed to one spot during the whole of their lives, subsequently, at least, to their first development; they seem to possess no sensibility, for they can be torn or wounded in any way without showing by their movements any indication of being affected by the injury; and they do not appear to have that power of executing voluntary motions which must be regarded as the distinguishing characteristic of animals. On the other hand, they present a structure which is not analogous to any thing found in plants, but is similar to that of beings undoubtedly belonging to the animal kingdom; with these beings they are connected by intermediate forms, presenting a regular gradation of increasing complexity of structure and variety of function; and there are certain movements, both in the adult and in the undeveloped Sponge, which are more analogous to those seen in higher animals than to any observed in plants. On the whole, however, the evidence for the animal character of the *Sponges* seems to preponderate; and they will be accordingly considered here. Still there is no doubt that, if they are included in the Animal Kingdom at all, the lowest place in the scale should be assigned to them.

The common *Sponge* is a sufficiently characteristic form of the class, to serve as the foundation of a general

Section of Living Sponge.

account of the structure which prevails in it. On looking at its exterior, we observe that it is covered by a number of closely set and minute orifices; and that larger openings are disposed at intervals among these. The former are termed *pores*, the latter *vents*. On cutting into the substance of the sponge, it is seen to consist of a sort of network of filaments, interlacing together in such a manner as to leave large channels and spaces of various forms, which communicate with each other. The large channels terminate in the vents; and, [illegible]ging any one of them into the substance of the [illegible], it is seen to divide and send off ramifying [illegible]es, which at last lose themselves in the spongy [illegible]k that lies around them; and this communi[illegible] with the pores on the external surface.

The interlacing fibres, of which the walls [illegible] canals, and the spongy tissue between them, are composed, entirely consist (in the common sponge) of a sort of horny animal matter, as is shown by [illegible] a small portion of them. But in other species [illegible] *spicula*, or needle-like crystals, of silex or [illegible] of lime, disposed amongst these, giving to [illegible] ture much greater firmness, but depriving [illegible] less completely, of that elasticity which is [illegible] the common sponge.

The substance known as sponge is, however, [illegible] skeleton of the being; when alive, this fibrous [illegible] is clothed, within and without, by a thin [illegible] substance, very like the white of an egg. This [illegible] the passages, and covers the exterior; but [illegible] away when the sponge is removed from the [illegible] this the peculiar vital endowments of the [illegible] to reside. These are manifested, not only [illegible] but regular growth, but by a curious circulation [illegible] constantly taking place within the mass. When [illegible] is examined in its living state, beneath the surface [illegible] stant current is seen to issue from the vents [illegible] made evident by the disturbance of the water [illegible] the movement of particles floating in it. It [illegible] be ascertained that a constant flow of water is [illegible] inwards through the pores; for small solid [illegible] upon their edges are occasionally seen to [illegible] No intermission can be detected, during the [illegible] sponge, in these currents, which evidently have [illegible] object to convey the nutritive matter contained [illegible] water into the interior of the mass, and also [illegible] off the particles which are to be excreted. [illegible] films detached from the living tissue are seen [illegible] out from the vents along with the fluid specially [illegible] them.

The relative position of the *pores* and *vents* [illegible] much in the different kinds of sponge. Sometimes [illegible] the former are on one side, and the latter on the [illegible] Not unfrequently the vents are placed on the [illegible] of little conical prominences, which look like [illegible] a volcano; and the stream issuing from them [illegible] seen under a microscope, may be likened to a [illegible] eruption. Sometimes the sponge assumes the [illegible] a hollow cylinder, which hangs at one extremity [illegible] rock; the pores are all upon the exterior [illegible] whilst the vents open into the interior cavity, [illegible] united stream rushes out with considerable [illegible] from the lower end of the cylinder.

Sponges may be multiplied, like plants, by [illegible] division, each portion becoming a new individual [illegible] it does not appear that this is their natural [illegible] increase. They propagate by detaching little [illegible] gelatinous bodies, termed *gemmules*, from the [illegible] tissue; which in time develop the original form [illegible] parent. These are produced in the network of [illegible] the large canals, into which they find their [illegible] when mature, they pass out of the vents in the [illegible] rent which sweeps through them, and by which [illegible] are conveyed to a distance. In these gemmules [illegible] liar motion, like that of animalcules, may be [illegible] some time; they swim hither and thither; at [illegible] fix themselves, and begin to deposit the horny [illegible] particles which are to form their skeleton; [illegible] system of canals gradually shows itself in the [illegible] stance. When once they have fixed themselves [illegible] seem to lose all power of further movement, and [illegible] during the rest of their lives attached to the [illegible]

Some kinds of sponges are found on almost all [illegible] and some frequent deep water, whence they [illegible] be obtained by dredging. It is in this manner [illegible] common sponge is procured from the Mediterranean, the Grecian archipelago, and the other localities [illegible] quents. Sponges are not confined to the sea, [illegible] for there is a species which inhabits fresh water [illegible]

With the notice of this group we appropriately [illegible] the subject of Zoology.

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THE PEOPLE.

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AN BODY.

t and strong. The marrow is contained in the cavity. Compact as they are, the bones are less pervaded by blood-vessels, which, indeed, ital in their vitality.

own or summit of the osseous fabric is occu- the cranium or skull, which is composed of es, the *frontal*, the *occipital*, and the two *pari-* stituting the greater part of the outward skull, ehind, and laterally. The two *temporal* or ones, on the under part of each side, and the and sethmoid bones, placed at the base of the ernally, are the remaining bones of the head. n of these bones is remarkably firm and strong ult being. In some cases, the osseous plates d by serrated or ragged edges, like the teeth In other instances, they overlap each other, idge of a house; the arrangement, in each case, recisely the one best fitted to ensure strength ility in the particular part. Altogether, an arch ost powerful kind is formed, for the safe pro- f the important organ within, the *brain*. The the face, situated below and before the cranium, erous. Among the facial bones are reckoned upper *maxillary* or jaw bones; two *malar* or nes; two *nasal* or nose bones; two small bones, to the nose internally, called the *turbinated* wo *palate* bones; the two *lacrymal* bones, situ- the orbit; the *vomer*, or ploughshare bone, a part of the basis of the nose; and the single bone, or *maxillary* bone of the lower jaw.

ones of the skull and face rest upon the top of or backbone, which consists of twenty-four pieces, called *vertebræ*, firmly and curiously the one into the other. The column of the curved in several places, the most promi- ng a curve forwards near the middle of the even of the vertebræ are called *cervical*, twelve nd five *lumbar*, from being situated respectively ck, back, and loins. Each vertebra has vari- jections and depressions, to admit of a firm th those adjoining it; and, by the junction of e, a long hollow or canal is made, for the re- f the spinal marrow. In the annexed figure, r part of the vertebral column is marked *a*, lower *a*. The second of the vertebræ of the ds upwards a projecting pinion or tooth, which ed into a corresponding depression in the one hus forming the pivot upon which the head The bones of the spine rest upon the *pelvis*, [illegible]

mentous band keeps the tooth-like projection of the ebra in the depression of the first. Nothing can better completely our life, during every instant of its duration, o the maintenance of every single part, however mi- der. If this ligament, scarcely thicker than [illegible] ld give way, instant death, from pressure on the arrow, would ensue. A jerker, carrying a [illegible] down head. On examination, the cause of [illegible]

a hollow, basin-shaped cavity, which is formed of two large bones, and composes the lower part of the trunk,

radius is connected to the same bone by a
ton-like head, which, being slightly concave,
projecting knob of the humerus, and admits
movements being performed by the lower
arm. These peculiarities of structure are
the free use of the hand. At the wrist, the
the radius and ulna is in some measure re
radius forming with the carpal bones, ff,
that of a door-hinge, while the ulna is in
left loose. The carpal or wrist bones are
number. They are of small size, and lie in
being jointed together in a manner that com
strength with a certain degree of mobility. In
tion of the points of the fingers, they are
the metacarpal bones, forming the palm of
and to which the phalanges, gg, or finger-bo
tached. Each finger has three bones in it;
has only two.

As has been said, the bones of the pelvi
side, are marked by deep cup-like cavities
receive the heads of the thigh-bones, kk, i
upper bones of the lower extremities. As w
by the different nature of the purpose to be
ball-and-socket joint of the leg is much str
that of the arm, and permits of much less
motion. The *femur* or thigh-bone is
drical bone, terminating at the knee in a
with the tibia, n, the principal bone of the
of the lower extremity. The knee-joint is a
but permits of a slight rotatory motion wh
bent. The tibia has a smaller bone, the
placed by its side, and over the knee-joint
a small bone called the patella, l, or knee-p
the principal muscles that move the joint
and which serves to protect the parts
The tibia and fibula form a union at the ank
the bones of the tarsus, which are seven
and constitute the heel or back part of the
again are united to the metatarsal bones,
the body of the foot, and five in number.
again are joined the phalanges of the feet,
all, two being attached to the great toe,
each of the others.

giving to it firmness and solidity. The whole mass of
it by two
vertebræ, both articulate and intervertebral, is perforated
which each
vertebra with the next above and below it. The
each side,
the vertebræ, and
the spinal marrow. The
bones of the
the most
vertebræ, from the
bone of the
arms. The upper
which is articulated
each side, to the
A very small
lower bones
the pelvis
to it the most
Nothing
means for permitting the arm to
so various which
single bone in each arm,
united at the elbow-joint,
fore-arm, termed the radius,
these, the ulna, is attached to the humerus
like that of a common door,
while the
peculiar pretty ligament,
noticed to have
remarkably thick
546

The
bones
each
bone
a certain
bones, and
which
the
bones
the
bones
the
bones

ned important agents in the animal eco-
muscles are of a reddish brown colour;
iposed of accumulated threads or fibres,
netimes in layers, sometimes in a straight
sometimes obliquely. They are of an
e, somewhat like a piece of India rubber,
impulse of the will, are lengthened and
ernately. A muscle is generally thick or
in the middle; it gradually gets thinner
xtremities, and, in many instances, passes
h ends into a tendon, or tough white sub-
h is attached to a bone, and serves the
e as a rope or cord, to fix the muscle to
m which it is intended to act. These ten-
t numerous about the joints, especially the
where they allow of free and unrestrained
et occupy little space in situations where
ing muscle would have been inconvenient.
arger joints of the body, also, such as the
and shoulder-joints, there are numerous
i pour out an oily substance, that serves to
joints, and facilitates the play of the ten-
s are from four to five hundred muscles
n body, all necessary for performing the
ements and operations of the complicated
n each side of the back-bone there are
's of strong muscles, which are fixed by
every projection of the numerous bones
ie spine. These muscles keep the trunk of
ct, and also permit of the various motions

There are a multitude of small muscles
ce, head, and eyes, whose various action
t expression to the human countenance
tes the prevailing feelings and passions of
il. The tongue is also supplied by intricate
res, giving to it that amazing volubility of
nch the vast number of sounds composing
e expressed. Many are attached to the
out two in particular, the temporal muscles,
ards through an arch formed by a project-
the temple-bone, and are fixed to the ten-
head. These two muscles are the most
moving the jaws in the operation of chew-
, and are very large in several animals of
her flat muscle inside the cheek is called
r-muscle, because it assists in blowing from
nd in sounding wind instruments. The
plied with numerous muscles, which move
wards and downwards in the action of
A large flat muscle, called the diaphragm,
ross the trunk from side to side, and sepa-
llow of the chest from that of the belly, also
nainly to the process of breathing. The arm
e rolled inward and outward by a set of
ich are placed on the outer and inner sides
ctive bones; thus, the outside muscles act
y manner to the inside, and reverse mo-
e alternately performed. The muscles of
n are fixed to the scapula or shoulder-
e chest, and to the clavicle, at the upper
the bone of the arm at the other. The
moved by muscles situated in the fore-
arm, and have long slender tendons, by
are attached. Two beautiful provisions of
ere observed: at the wrist, a circular ring
s substance binds down the long tendons,
l, in their various motions, otherwise start
ir places. This ring at once keeps them in
rmits their free and unhampered play. The
sion is seen in the construction of the ten-
fingers. There are two principal muscles
the joints of the fingers, and two sets of
ich are inserted, the one into the middle
e finger, the other into the third row of
the extremities of the finger. In order
their free action, and to make them lie
convenient manner, there is a loop or slit
rter tendon, by which the other passes
its insertion in the point of the finger. By
this means, the longest and strongest muscle moves the extremities of the finger, where the greatest power is wanted, without impeding the action of the other. The muscles which move the lower extremities are thicker and more powerful than those of the arms. Several large muscles, acting in opposition to each other, are situated around the thigh-joints, and move them. They are fixed, one end to the trunk of the body, some pretty far up, especially two, which are spread upon the front of the abdomen or belly, on each side of the spine, while the other ends are attached to the thigh-bone. Several thick muscles, also, are situated at the back of the trunk. Two large muscles compose the calf of the leg, and join to form the tendon of Achilles, which is fixed to the heel-bone; these muscles act powerfully in bending the ankle and in supporting the body in walking. The foot and toes are moved by several long slender muscles, situated in the leg, which have tendons attached to them, and terminating on the toes, exactly like those of the hand and fingers. The pelvis and lower limbs of man differ greatly from those of all other animals in their superior proportional strength, and in the number and fullness of the muscles. This was necessary, as man has been evidently intended by nature for the erect position. In the monkey tribe, whose general form approaches nearest to that of man, the narrowness of the pelvis or hip-bones, and the smallness of the muscles of the lower extremities, clearly show that they were not destined by nature for the erect attitude; in fact, all animals of this class are furnished with four *hands* or *paws*, the hinder pair exactly resembling those in front. When they attempt to walk on the hind extremities, they cannot put the sole to the ground, but press on it edgeways. By the nice balancing of the muscles, and the great force which they exert, man is enabled to stand erect, and to maintain a firm position, or move forward at pleasure, notwithstanding that the body diverges from the perpendicular line of the centre of gravity. The head is also balanced upon the neck by means of strong muscles, whose constant though unobserved exertion is necessary to maintain it in its position; for in young children, when the muscles are as yet weak, and in persons asleep, the head has an inclination to droop, and in the dead body it falls down on the shoulder or breast. The muscles of the neck, therefore, may be said to exercise a power in some degree involuntary, or not under the command of the will, as the majority of the muscles of the body are. But there are other muscles still more distinctly removed from under the guidance of the will. The heart is nothing else than a hollow muscle, which contracts and expands without the consciousness of the being; and, in like manner, the muscles which perform the act of respiration are not moved by the will. This division of the muscles into two classes, shows as perfectly as any thing could do, the care with which our frame is constructed. Had those muscles on which respiration and the action of the heart depend, been placed under the control of the being, their functions would have been liable to be impeded, at every turn, by circumstances. Now, these organs cannot cease to act for the most trifling period of time, without fatal consequences. The arrangement, therefore, which renders their operation involuntary, is one to be admired as essential to life and comfort.

THE BLOOD—BLOOD-VESSELS.

The Blood.—The blood is the medium by which all the solid and fluid parts of the body are supplied with nourishment. In its composition, therefore, will be found the majority of the substances of which the body is composed. The blood consists of a solid coagulable matter, called *fibrin;* of a series of *red globules* which form the colouring matter; and of *serum*, or whey-like matter, which gives the whole the necessary fluidity. From the heart, the centre of the circulation, the blood is conveyed through the body by vessels called *arteries*, and is brought back to the same part by *veins*. The
pose of thus making the circuit of the whole

whole. After traversing the body, it returns to the heart, deprived of its nutritious properties, and changed in colour from a bright to a dark red. Here the second circulation, which is through the lungs, commences. The blood is poured from the right side of the heart, which has divisions for the purpose, into large vessels which carry it to the lungs, and, spreading out into countless branches, penetrates and permeates their whole substance. Collected again by other vessels of equal number and extent, it is conducted by them to the left side of the heart, to be propelled anew through the frame, restored to its bright red hue, and repossessed of all its vivifying qualities. Both these changes are effected in the lungs. The chyle, which may be called the essence of our food in a liquid state, is conveyed from the stomach through the chest by a duct, which empties itself into one of the veins, immediately before the blood is transmitted through the lungs. It is in these organs that the chyle is thoroughly mixed up with the circulation ; and it should be remembered, that this chyle is the only benefit, the only real food, extracted from all the substances received into the stomach, the remainder being entirely useless and excrementitious. From the chyle comes the material of the bones, of the fleshy or muscular parts, of the brain and nervous cords, of the hair, nails, enamel of the teeth, and, in short, of every different structure of the system. The average quantity of blood contained in an ordinary-sized person, is calculated at about 30 lbs. weight. The coloured globules of blood do not enter into the smallest vessels of the body, but only the thinner part of it, which has no colour ; thus, in the eye, there are numerous blood-vessels, but these are so minute as not to admit the red parts of the blood ; and this is a necessary provision of nature, in order that these organs may retain their pure transparency for the purpose of vision. In inflammation of the eyes, when these vessels are much enlarged, the red globules sometimes enter, and the eyes are then said to be bloodshot. What is called the pulse, is the flow of the blood thro the arteries, which is caused partly by the im- ... the heart's contractions or beatings, and partly

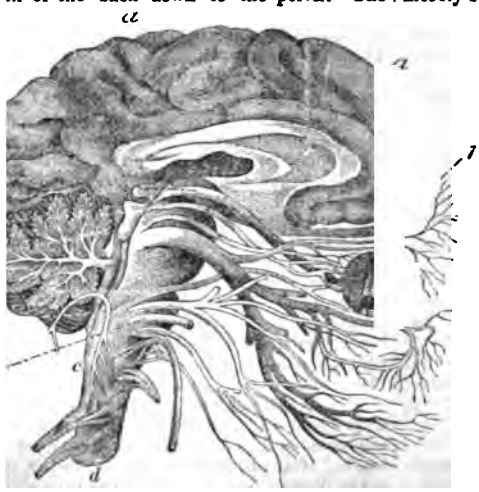
auricle of the heart, and carry
made the round of the body, int
is of a dark purple colour, and it
from its coming from the ve
auricle it is sent, by a sudden
together of the two sides of the
ventricle, immediately below the
cating with this by a small ope
valve ; by the right ventricle
veyed by the pulmonary arteri
two large cell-formed substance
chest, surrounding the heart.
the lungs it is returned by the p
left auricle of the heart ; from t
adjoining left ventricle ; and, by
of this muscular cavity, it flo
artery of the heart, the carotid
through every part of the body,
by the veins : and thus the round
tinually going on.

The heart being an extremely
with which it contracts is very
ventricle of the heart, too, altho
is much thicker and more muscu
having to send the blood through
A beautiful provision is observ
prevent the flowing back of the
cavities during their alternate
passage of communication betwe
ventricle are placed valves, whi
contracts to send the blood thr
accurately, so as to prevent a ref
There is the same provision bet
and ventricle, and also at the m
of the aorta and pulmonary arteri
communicate with the right a
valves are of beautiful structur
of three flaps that join accurately
to prevent their being pushed
blood beyond their proper positi
dinous cords attached, of exactly
In the child before birth, an

texture. These extreme branches of the
ıg so minute, anatomists have had great
:racing the exact point at which they pass
That they do so, however, is undeniable,
/ seen on the surface of the brain. The
other system of vessels, which return the
the extremities of the body to the heart.
rger and more flaccid than the arteries,
inguished from them by having no pul-
arge vein generally accompanies the cor-
artery, but the great proportion of the
re towards the surface, and are easily dis-
swelling out under the skin. The numerous
he lower extremities join into one trunk in
hich vein, after passing through the liver,
terwards described, joins the right auricle
, the blood from the upper half of the body
by another similar vein. In the veins of
ies that hang downwards, and are apt to be
blood, there are inserted numerous valves,
ances, which prevent reflux of any kind.

RAIN—NERVES AND NERVOUS INFLUENCE.

, as already mentioned, is contained in the
t is a soft mass of matter, enclosed in cer-
ing membranes beneath the bones of the
the organ by which mind acts, and chief
nervous energy, the brain may be described
: important and dignified of man's bodily
vell deserves the most careful investigation.
is divided by strong membranes into two
ıs—the cerebrum or proper brain, which
beneath the brow and on the top and sides
, and the cerebellum or lesser brain, which
Both are longitudinally divided into halves
:res, and also into lesser parts called lobes.
:d figure offers a lateral representation of
t parts of the brain, as it lies beneath the
its beautiful and minute radiation of nerves
to the eye and other external instruments
ıs of sense.
brum or principal part of the brain is indi-
ıe letters, *a a a*. The cerebellum, distin-
the letter *b*, terminates below in the *medulla*
c, the cylindrical pulpy cord by which a
rmed between the brain and *spinal mar-*
ıe latter part is the long cord of soft matter
entioned as lying in the canal formed by
of the spinal bones. It is round, of the
f the finger, of the same kind of substance
in, and formed of smaller nervous cords,
ırallel to each other: it runs along the
th of the back down to the pelvis. The



The Brain.

nerves are small whitish-looking cords, which proceed from the brain and spinal marrow, and spread out in innumerable branches to every part of the body. A large branch of a nerve generally accompanies every large artery, and every important part of the body has a branch of a nerve sent off to it. The nerves for supplying the organs of smell (1), of seeing (2), of hearing (3), together with the great sympathetic nerves, which give branches to the heart, lungs, stomach, and other important viscera, proceed directly from the brain. The nerves of motion and sensation sent to the various parts of the trunk and extremities, take their origin, with a few exceptions, from the spinal cord. Two sets of nervous branches proceed from the cord on each side, corresponding nearly to the junction of every vertebral bone; and it is found that a branch of these nerves imparts motion, and the other sensation or feeling. The brain has a covering of three thin membranes; the outward one strong and thick, the inner extremely thin and delicate. The nerves, which are soft and pulpy inside, have also a thin external covering which protects them. The nervous branches are never seen or felt in the living body, and what are vulgarly called nerves, are the tendons of the muscles, the erroneous title being given chiefly to those about the wrists, fingers, and ankle-joints. Their great numbers and minute divisions are manifest, however, because we cannot prick any part of the body with the sharp point of a needle, without wounding some of them, and thereby causing the sensation of pain. When the nerves are injured in their powers by disease, the sense of feeling in the part is entirely lost. The brain in the lower animals is not generally nearly so large, in proportion to their bulk, as in man; and the cerebrum, or upper brain, is often smaller in them than the cerebellum, or lower brain. In many classes of the inferior animals there is no distinct brain, but only nerves running along their bodies, and joining into knots or ganglions. The nervous system of insects and worms is of this description. In the polypus, and some other similar animals, a distinct nervous system can scarcely be traced.

It may be proper here to make some observations on the functions of the brain, considered abstractly from its anatomy. Man surpasses all other animals in the height and proportions of the forehead, and in the comparative mass of brain in the upper part of the skull. In the human head the lower parts of the face bear a smaller proportion to the forehead than in the brutes. The face is placed in nearly a perpendicular line with the forehead, instead of projecting outwards into a snout, as in the lower animals. The brute face is merely suited for the purpose of animal wants and for defence; the jaws are long and narrow, supplied with thick, strong muscles, and short teeth; there is not the elevated nose, which in man forms a distinguishing feature—the arched eyebrows—the exquisitely formed lips, and the rounded chin; above all, there is not that play of varied expression, that air of intelligence, and that indescribable emanation of a rational mind, that ray of divinity, at the appearance of which the most wild and ferocious of the brute creation are awed and subdued. But, besides, the Creator seems to have allotted characteristic external signs to express the passions of the mind, that in social life man might not easily impose on his fellow-man; for the various muscles of the face express the several passions of the mind so faithfully, that they may be even represented in painting. This is said to be the natural expression, and would appear to be understood even by animals; for a dog, on looking to the countenance of his master, easily recognises the mute expressions either of commendation or dissatisfaction. From the action of these muscles being so often repeated,

physiognomy arises; the action of the prevailing muscles fixes an enduring expression on the features; and thus traces of frequent anger often remain in the countenance after the passion itself is gone off. With the power of speech and reason, man has also the means of expressing his feelings and passions by laughter and weeping, manifestations which are not found in the lower animals. Weeping proceeds from a deep emotion of the mind, and seems an effort of nature to relieve the system of grief. It usually begins with deep inspirations of the lungs, after which follow short alternate inspirations and expirations, and it is finished with a deep long-drawn expiration, which is immediately followed by an inspiration. When moderate, it certainly relieves the distress arising from grief. Laughter has its rise from some ludicrous ideas impressed upon the mind, and would seem to arise directly from a sort of titillation conveyed to the branches of certain internal nerves, probably those of the diaphragm; immediately to this succeeds a number of imperfect inspirations and expirations, which seem to be checked by the contraction of the glottis in the throat or larynx. Laughter in a moderate degree may be conducive to health, as it gives impulse to, and ultimately promotes, the circulation; carried to excess, however, it may prove dangerous, from accumulating too much blood in the lungs. Sneezing consists of one deep inspiration, succeeded by a powerful single expiration, and seems to consist of a convulsive effort of the muscles of breathing to throw off some cause of irritation in the sensitive membrane of the nostrils. The common hiccup is a spasmodic action of the muscles of the stomach, caused by something irritating the stomach itself. Some of the causes by which our mental happiness is either increased or diminished, proceed entirely from the bodily sensations. Any gentle stimulus applied to a nerve seems to cause a feeling of pleasure; strong stimuli, or any causes disturbing seriously the natural condition, produce pain. Itching is akin to pleasure, and in both cases the flow of blood is increased into the part in which either pleasure or titillation is perceived; but when farther increased, it degenerates into pain, or excessive sensations in the nerves. Anger violently excites the motion of the spirits, increases the motion of the heart, the frequency of the pulse, and the strength of the muscles; forces the blood into the extreme vessels; and even sometimes bursts the smaller vessels themselves: passion also increases the secretion of bile. Grief weakens the strength of the nerves and action of the heart, retards the pulse, destroys the appetite, and frequently produces paleness, looseness of the bowels, indigestion, and those slow or lingering diseases that take their rise from an interruption of the secreting glands, and a disease of their structure. Fear diminishes the force of the heart, weakens the muscular motions, relaxes the whole system, and, if long continued, causes a general sinking of the body. Excessive terror often increases for the moment the muscular strength, even to convulsions; excites the pulse, interrupts the course of the blood, and in not a few instances has produced sudden death. Love, hope, and joy, promote all the salutary actions of the body, gently quicken the pulse, promote circulation, increase the appetite, and aid the cure of diseases. Excessive and sudden transports of joy, however, often prove fatal, by increasing the motion of the blood, and exciting a fit of apoplexy. Shame, in a peculiar manner, retains the blood in the face, as if the veins were obstructed; when felt in an extreme degree, it has also been known to prove the cause of sudden death.

THE LUNGS OR BREATHING APPARATUS.

In the highest part of the cavity of the chest, on each side of the breast-bone, the lungs are situated. A membrane passing from the breast-bone to the back, divides them into two portions, the right lung and the left lung. The right lung consists of three sections called *lobes*, the upper, middle, and lower; the left lung, rendered smaller in bulk by the presence of the heart in the same cavity, has only an upper and a lower lobe. The lungs have a dark bluish appearance, a fa ample of which is afforded in the *lights* of a part generally appended to the heart and Inside they are composed of an immense n cells, which alternately inflate or collapse as are filled and emptied of air. When an ins made, and the lungs are filled with air, thes come expanded; and the blood sent from the of the heart, and spread over the cells, is expose an extremely thin membrane to the air. An change, as formerly alluded to, here takes pla blood: from being of a dark purple colour, diately changes to a bright scarlet, having ab taken up all the oxygen, or vital part of the parted with a corresponding volume of carb gas or fixed air, which it had acquired in through the vessels of the body. So essent matter imparted by the air to the blood for animal existence, that the breathing cannot pended even for a very short period without ing life. It is probable, too, that the heat of is generated, and constantly kept up, in a other, by means of this process of breathing change which the blood undergoes. We know that the evolution of carbonic acid cannot go nary chemical processes, without an accompa charge of heat; and hence it is presumed tha warmth, derived by the body from the bloo in this way produced. The lungs, like ev internal organ, are covered with a thin t membrane called the *pleura*: this membran as the substance of the lungs themselves, is inflammation; and hence the name of the dis pleurisy. The trachea or windpipe, the co tion between the mouth and lungs, is a bo having a series of cartilaginous rings pass it, to prevent the possibility of its being c either by external means, or from the food of swallowing, and, in consequence, the brea structed. It takes its rise from the botto mouth, and passes down in front of the neck, strong cartilage may be seen and felt. At part it divides into two parts, like the prongs one going to join the right section of the lungs, the left. Lungs for breathing air are only fo higher classes of animals. Fishes are furni gills, those comb-like substances which he wit on each side of the head; over them a stream is constantly sent by inhaling it at the m similar manner to breathing. The air, which present in considerable quantities in water absorbed by the blood-vessels while ramifying gills, and all the purposes of breathing are In insects there are no lungs, nor do they h the mouth, but along the sides of their bodies, of numerous holes with small tubes or spira ing to a longer middle tube, by which the and mixes with their fluids. When we dese in the animal scale, even this substitute for ceases, and probably the vital air is absorbed animals by simple pores or openings in the sk

THE TEETH.—DIGESTING APPARATUS.

The first process performed in connexion supply of nourishment to the body is that of ing the food, and this is the office of the teeth.

The Teeth.—These are placed in the upper jaw, to which they are attached by roots, w into the porous sockets of the jaw, somewh same manner as a nail is fixed in a piece though they are retained in place chiefly by parts around. The teeth are composed of bon covered externally with a thin coat of an e hard substance, called enamel. The teeth are with nerves and blood-vessels, and have thus vi the rest of the body, although possessing it perfect degree than most other parts of the Hence they are very liable to disease and de decaying teeth a blackish spot is first perce

sed, the valve again springs open, and admits of
thing. To show how accurately and precisely
rt of the human machine performs its duties, a
ed writer has instanced this same valve, which,
ltitude of persons dining together, not one time
hundred in any one individual instance is at
When a drop of fluid or particle of food does by
insinuate itself into the windpipe, so sensitive is
, that a convulsive cough is excited till it is
pelled. There is another little tongue or flap
to the roof of the palate, and seen above the
hen the mouth is opened. This, which guards
ge to the nose, is not, however, to be confounded
other, which is farther down the throat, and in-
The œsophagus, or gullet, passes down through
t, traverses a ring in the diaphragm, that large
which stretches across the lower ribs, and which
materially in breathing. Immediately below
sele, on the left side, is situated the stomach,
partly sustained in its place by being attached
esophagus, or tube from the mouth. The
is an oval bag of considerable size, occupying
g position immediately below the heart, with its
e overlapped by the left edge of the liver, and
g to the lower end of the breast-bone. The sto-
s three coats—an external membranous one, a
r, and a soft villous inner covering. The upper
by which this bag communicates with the œso-
is called the *cardiac* opening; the lower, where
gut commences, is called the *pyloric* orifice.

tion.—One of the most important operations in
al economy, is that of digestion, whereby the
ubstances used for food are dissolved in the
, and undergo changes, by which they are formed
ter fit for entering into the composition of the
parts of the body, to nourish its growth, and
e daily waste which takes place in the system;
is the constitution of animal bodies, that the
es of which they are composed are liable to
waste; the solid parts are worn down, and a
antity of fluid is constantly given off by the ex-
ssels, both from the skin and the surface of the
This is manifest in the sweat and the vapoury
ns constantly passing off by the mouth; and
also an imperceptible perspiration regularly
ng from the surface of the body, which has been
d to amount to several pounds in the course of
It must be evident, therefore, that if this waste
wed to proceed but for a very short period, the
uld soon be reduced to a state of complete decay.
ant supply of new material is therefore daily
to replace that which is wasted; and thus it
supposed that a human body changes its whole
s many hundred times from the period of its
death; and that an individual, as regards his
rporeal structure, is not at all the same at the
f manhood to what he was when a boy, nor in
what he was in his prime. Although this
hen is complete, even to the bones and most
rts of the frame, it is brought about so gra-
nd with the regular and minute substitution of
icle for another, that it is never perceptible.
s been called, with relation to his diet, omni-
from his being adapted to live on every kind
whereas most other animals are confined to one
ir description. The carnivorous animals live
alone, the graminivorous on grass and green
d the granivorous on grains and other smaller
These animals never change their respective
or, from the construction of their teeth, sto-
nd intestines, were they ever intended to do
t in man it is plainly evident, from his ana-
structure, that he was intended to feed on
rt of food promiscuously, or that he could
mself to either animal or vegetable fare, as
necessity impelled him. Man also differs from
resorting to the arts of cooking, whereby the
ut into a state more fitted for digestion, and
ing a sufficiency of nutritious aliment. The

food being received into the mouth, is broken down and masticated by the teeth. It is here also reduced into a soft pulp by the saliva, which flows into the mouth by the salivary glands; and thus being sufficiently broken down and softened, it passes into the stomach. The stomach has numerous glands situated on its inner coat or surface, which secrete a peculiar fluid called the gastric juice, which is clear and colourless, with little taste, or smell, or sensible qualities. On this fluid depends the important office of digestion. It has the power of coagulating substances in the stomach, of preventing the contents of the stomach from passing into a state of fermentation or putrefaction, and of dissolving the whole into one homogeneous mass. When the stomach is first filled with food, it appears to remain there for a short period without undergoing any change; gradually, however, successive portions of the food, as they come into contact with the gastric fluid, are dissolved; till at length, in a shorter or longer period, the whole is collected into a thin greyish paste, called chyme. In the upper or left division of the stomach, it would appear, from some recent observations, that the food is freed from its superabundant moisture, which drains off by some undiscovered means to the blood-vessels, and from thence to the kidneys. The chyme then, as it is gradually formed, moves to the other extremity of the stomach, called the pyloric, where it passes out to enter the intestinal canal. It would appear, also, that the pylorus, or lower mouth of the stomach, has a sensitive power, whereby it freely permits the digested chyme to pass out, but refuses exit to the undigested matter. The chyme having passed into the first part of the intestines, or duodenum, is then mixed with the bile from the gall-bladder, and with the pancreatic juice. Both these substances, especially the bile, seem essential for the conversion of the chyme into proper alimentary matter, but their peculiar action has not yet been satisfactorily explained. That the liver and bile ducts are of the utmost importance, however, cannot be doubted, from their magnitude, and the care with which they are supplied with numerous vessels, and from their being universally present in a great proportion of animals. The chyme having passed through the duodenum, and having been mixed with the bile and pancreatic juice, now changes its appearance and properties, and becomes the chyle, or nutritious matter destined to supply the various parts of the system with nourishment. The digested mass is passed gradually along the course of the small intestines, urged forward by what is called their *peristaltic* motion, which is effected by a successive contraction of their fibrous coats. Here the minute mouths of the lacteal vessels, opening on the inner surface of the small intestines, take up the chyle, and carry it, as has already been described, to the receptacle of the chyle, and then by a duct running up the chest along the spine, called the thoracic duct, it joins the blood-vessels. The refuse of the aliment which has not been taken up by these lacteal vessels passes on through the large intestines, and at length is ejected from the body. Digestion is not brought about, as has by some been supposed, by any mechanical means, as by the grinding powers of the coats or sides of the stomach, nor by heat alone, nor fermentation, nor by the simple resolution of the food into a fluid; but it is evident that it undergoes a series of chemical actions in the stomach and bowels, whereby its nature and properties are completely changed; and thus animal and vegetable substances, however different, are reduced to one peculiar kind of fluid, the chyle, which, though it may be found to vary slightly according to the kind of food, is, in its general properties, always the same. The gastric juice varies in different animals. In those which feed on vegetable matter, it dissolves these substances only; whereas grain and vegetables pass through the stomach of a purely carnivorous animal *without* undergoing any change. The gastric juice *has this singular* property, too, that although it readily *dissolves* dead animal matters, and reduces them in a short time to a thin pulp, it will not usually a living fibre; so that, after death, the coats of mach have been found dissolved into holes, same juice, which, in the living body, had no suc This forms a most important fact in medical j dence. A stomach of some kind or other is all animals; for it is by this organ that nutri growth are solely promoted. There are sm simply formed animals whose whole body co an oval hollow bag, or stomach, with a simp for the mouth to take in nourishment, and n organ whatever. The common polypi have mouth and hollow stomach, with several tenta arms, by which the creature seizes the wor grubs on which it feeds; these it swallows, a their juices, and then voids the remainder f mouth. The common leech has its whole body into a number of small cells, like a piece of hone and these receive the water, and sometimes bl which it feeds. Flesh-feeding animals have a bag for a stomach, and their food is easily a digested. Those animals, again, that feed o which is of more difficult digestion, have three stomachs, into which the food successively pas it has been masticated or chewed a second tim mouth. This is the case with cows, sheep, d Birds that feed on grain have first a sap-bag, into which the food enters, and remains fo siderable time, mixed with a juice somewhat lik here it is softened and rendered moist, prepar its passing into the true stomach, or gizzard, an extremely strong muscular bag; in this, assistance of a number of sharp-pointed pebbl such birds always swallow, it is ground down a on by the gastric juice. This compensates for ciency of teeth in fowls. Crabs and lobsters teeth in their mouths; but in their stomach found three or more teeth, which assist in grind the tough sea-weed on which they feed. By tication, the qualities of the gastric fluid ma changed, that animals accustomed to live on flesh will exist and thrive on a vegetable diet, the case with dogs, and many birds. All the liarities in the natural history of animals illus least directly, the uses of the digestive organ human being.

THE LIVER, &c.

The Liver.—Opposite the stomach, on the ri lies the liver, a large flat substance, of a dar colour, divided into two lobes. The liver has convex upper surface, and is hollow or concav it is also thick and solid at the back part, and becomes thinner towards the front, where it a portion of the stomach and bowels. It is s in its place by several ligaments attached to rounding parts. In the under side of the li small hollow, is situated the gall-bladder, a s bag which contains the bile. A tube from this called the bile-duct, passes into the upper p the bowels, carrying the bile there. The liv plied by several branches of an artery in the u that the other organs are, but it has also a p which no other organ of the trunk possess large veins, which return the blood from t part of the bowels, before going to the hea the substance of the liver, and there spread numerable branches throughout its whole From this venous blood the bile is suppos secreted, and after having yielded this subst vessels collect again into one large trunk, the large vein which carries the blood to t The liver weighs, on an average, from thre pounds weight, and the quantity of bile wh cretes, taking into account its large supply must be very considerable. The greater p of animal beings are provided with an app some kind or other for preparing a supply and in many the liver bears a large proport

contents of the belly. In some animals, as the e, the gall-bladder is wanting, there being merely es to convey the bile into the intestines. In the st classes of animals, all traces of liver or gall- disappear.

Spleen.—This substance is situated below the ach, on the left side, betwixt it and the ribs. It shape a flat oval, and of a dark iron colour. No ar opening has been discovered proceeding from e has its use been as yet accurately ascertained. ssibly serves to relieve the stomach of its surplus city of blood while this organ is distended with ; and the splenic vessels have also been held by to contribute to the secretion of the gastric juice. ypleen, it is remarkable, has been frequently cut from living dogs, without causing any apparent agement in the health or digestion of these animals.

Pancreas.—This substance, known under the e of the sweet-bread, is a large oblong gland (or ivary organ), lying across the back part of the belly, ading between the spleen and the middle of the . This gland pours out a substance something the saliva or spittle of the mouth; and by means small duct or canal, empties it into the upper s, along with the bile from the gall-bladder, both e substances aiding in digestion, and the prepara- of the nutritious fluid to be afterwards mentioned.

Lacteal Vessels.—These are innumerably small tubes, eeding from the ileum or small intestines, along whole course, and spreading along the mesentery, re they form an immense number of small knots, ands, by joining together. These are the vessels h take up the fluid chyle, or milky-like substance, it has been digested and properly prepared in the mach and bowels. From these mesenteric glands, chyle is conveyed by these ducts or canals to an- r large gland, situated in the loins, on the right side the aorta, and immediately below the diaphragm, d the receptacle of the chyle. From this recep- the thoracic duct arises, and passing upwards by side of the aorta, or great artery of the body, it joins left subclavian vein, lying under the left clavicle llar-bone, and thus pours the whole of the chyle the general circulation.

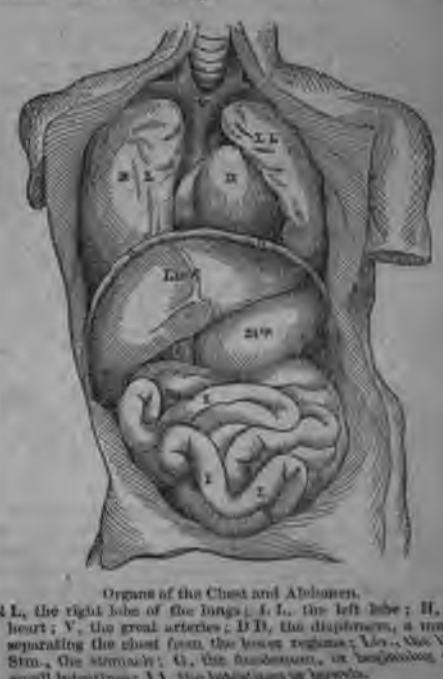
The Kidneys.—These are situated in the loins, one each side of the back-bone, about one-third up the e. They are in shape somewhat like a French bean, their internal structure consists of a number of mi- e porous tubes. They each at the middle hollow part ive a large artery, and their use is to filter from blood the superabundant fluid, and salts and juices ecessary for the system, and transmit these, by ans of two small tubes, called the ureters, to the nary bladder. These tubes enter the back part of the dder in a slanting direction, which serves the purpose alves, preventing a flowing back of the fluid when the dder is full. The bladder is situated in front, imme- ely above the bone of the pelvis, called the pubis.

The whole cavity of the belly is lined by a thin mem- ne, called the peritoneum, which is double, being ected from the sides of the cavity over the whole of intestinal organs. This peritoneum is liable to in- mation, in the same manner as was mentioned of pleura, which produces a very violent disease. The e of the intestines, too, are also subject to the same ction. Dropsy may arise from water being formed ween the two folds of the peritoneum.

The Lymphatic Vessels.—These are another distinct of vessels spread over all the inner cavities of the y, and also throughout the skin, on which they open innumerable small mouths. Their office appears to o take up from the blood a thin lymph, which they vey into the receptacle of the chyle and thoracic duct, also to exhale or carry off from the skin the super- us moisture of the body. This moisture forms the at, and several pounds of fluid are daily drained off m the body in this manner, even when little or no ily exercise is taken, for perspiration continually s on insensibly. These vessels are composed of a series of extremely small tubes, and, joining and inter- weaving, form numerous glands, especially in the groin, armpits, and neck; when swelled by disease, they harden and enlarge, forming knots like a pea or bean. But they are no less numerous on the surface of the inner cavities of the body as on the skin; they are found in the brain, on the surface of the lungs, where they give out a large proportion of vapour at every expiration of the breath, and in the abdomen or belly. It is a disease or sluggishness of these vessels, whereby they do not perform their necessary duty of taking up all the super- abundant fluids, that causes accumulations of water in the chest, belly, and legs. The branches of the lym- phatics of the lower half of the body join the receptacle of the chyle; those of the upper part enter the thoracic duct just before the latter pours its contents into the subclavian vein.

THE BOWELS.

From the lower or pyloric orifice of the stomach, the duodenum, the first portion of the intestinal canal, takes its origin. This gut passes below the liver and receives the bile-duct, and the duct from the pancreas, when it terminates in the jejunum, which again passes into the ileum, or principal portion of the small intestines. These are of great length, and occupy a great part of the abdomen, being folded and twisted backwards and forwards in many intricate windings. At the end of the ileum, the colon, a large gut, makes an arch upward towards the right side, and across the belly, and descending at the back part, ends in the short bag, called the cæcum, which joins the rectum, the termination of the intestinal canal. The whole length of the intestines in man is generally about six times that of his average height, or from thirty to thirty-six feet. In all animals that feed on vegetables, the intestines are of great length; whereas, in those that derive their nourishment from animal food, they are of much shorter proportions. Two membranous substances, called the omentum and mesentery, run along nearly the whole length of the intestines, and serve as a means of their attachment and proper suspension in their places. The bowels have three coats—an external one, common to them with the other viscera, a muscular coat, and an internal mucous covering.



Organs of the Chest and Abdomen.

R L, the right lobe of the lungs; L L, the left lobe; H, the heart; V, the great arteries; D D, the diaphragm, a muscle separating the chest from the lower regions; Liv., the liver; Stm., the stomach; G, the duodenum, or beginning of the small intestines; I I, the intestines or bowels.

of sight, and is a most beautiful and ingeniously constructed object. The eye may be compared in its structure to a telescope, the purpose of both being to collect the rays of light proceeding from the surface of bodies, to concentrate these rays, by means of a refracting lens, into a focus, and, therefore, to form a very small image or picture of the object before them. The human eye is placed in a large hollow or socket in the upper bones of the face, surrounded by fatty substance, and the various muscles necessary for moving the eyeball and eyelid. At the upper and outer angle of the eye-socket is placed a gland, which secretes the tears that serve to moisten the delicate surface of the eye, to wash off any dust or other substance, and to keep the eye continually wet and transparent, for the purpose of perfect vision. The tears, after spreading over the eyeball, collect at the inner angle, where, at each corner of the eyelid, both above and below, there is a small opening visible, which carries the tears down a passage into the nose. The edges of the eyelids are also supplied with glands, which pour out a mucous that prevents them from adhering together; and these, when irritated and inflamed, are often the seat of disease. The membrane which covers and imparts the white colour to part of the eyeball in front, is called the sclerotic coat. The middle transparent part of the eye in front is called the cornea, which is filled with the aqueous humour of the eye. Immediately behind the cornea is seen a circular fringed-like substance, which varies in colour in different individuals, being blue, black, hazel, &c.; and hence it is called the iris, or rainbow curtain. This iris has the property of opening and closing, according to the quantity of light which falls upon the eye; and thus the pupil, a black circle contained within the iris, is enlarged or lessened. Behind the iris is situated the crystalline lens, in shape resembling the small lens or ground glass of a common telescope, but of unequal swell on each side, being more flattened before than behind. This lens is contained within a capsule, or thin covering of delicate membrane. A familiar example of the lens of a fish's eye is presented every day in that white globular substance found in such eyes after boiling. The heat coagulates the lens, which is of the same nature as the white of an egg; and in the fish it is nearly a circular body, to adapt the animal's vision to the dense

miniature. All these objects are pai
in a reversed position, or turned upsi
as happens in a common microscope;
perceived in their upright position thr
of sensation, is a curious question, no
of explanation. Each eye, too, forms
sion of every object, and yet things ar
but both eyes combine to give one i
brain or seat of perception. Besid
muscles which roll the eyeball in var
adapt it to the various positions of vi
also a power, in the cornea or front p
whereby it can flatten or become mo
ing as the object viewed is at a greate
from the eye, thus adapting itself to t
in a similar manner as the joints o
drawn out or pushed inwards. Wh
from its natural form, of too rounded
ture, distant objects are always seen i
causing what is called nigh-sightedn
hand, when it is too flat in form, nea
seen indistinctly. This change occur
cornea as old age approaches, and he
artificial rounded lenses, to aid the fl
are in such cases made use of with t
From the different densities of the th
posing the eye, the refraction, or bre
into the various coloured rays, is av
long time was a great objection to tel
rent kinds of glass were joined toget
thus imitating the resources of nature
eyes are supplied by two large optic n
by separate trunks from the brain; t
for a short space within the cranium,
separate, and each entering an openin
of the orbit, spreads out into branche
Sometimes these nerves lose their po
and total blindness is occasioned witho
disease of the eye: this is called am
most cases incurable. All the larger
animals are possessed of eyes. Bird
very acute vision, especially birds o
them to distinguish their victims at
the air. They have also a third eyeli
membrane which covers the eyeba

by the sight of food when the appetite is good. f essential service in moistening the food, and ng it for the process of digestion in the stomach. nsation of taste is in all probability diffused every class of beings, however low in the scale ence, although it is probable many animals pos- le of it in their mouths, especially when these med of hard, horny, or even earthy substances, any insects—the lobster, crab, &c.—and where an corresponding to a tongue is wanting. Even irds that feed on grain and hard bodies, not er broken down in the mouth, must have little n of taste.

h.—The sensation of touch is diffused more or r every part of the body, but is most perfect at nts of the fingers, which in man are generally examine the figure and texture of bodies. For rpose they are furnished with a large supply of inute blood-vessels and nerves. It would appear re are different nerves that convey the sensa- touch, distinct from those which are the nerves ion; and that these proceed in pairs from the marrow; and that, moreover, the sensation of cold may be perceived very distinctly, in cases the pricking of a needle or contact of other is never felt. The sense of touch may be said ng to every animated being, and is one great eristic of animal existence. Vegetable bodies a certain degree of life, and show what is irritability of their fibres; but they have no n, properly so called; they are not sensible or injury, as the lowest and simplest sentient is; neither have they the compensating per- s of pleasure. It is probable, however, that n is not by any means equally acute in all ani- some feel more intensely than others, and it is y provision of nature that it should be so. The insects and reptiles, from their structure and are continually exposed to injury; and did they as acutely as the larger animals, the degree of suffering throughout nature would be excessive. animals bear the loss of limbs with impunity, ve the power of restoring these lost members in short time. It is probable that, according to fection of the nervous system, is the acuteness al sensation.

hus reviewing the different parts of the human t will be observed that most of its organs are On a line being drawn in the middle, on each ll be found parts which are exactly similar to responding side. This is the case with the brain, is a double organ, having two series of nerves ding out from each side of it to go to the respec- es of the body. There are two eyes also, each ng a distinct image on the retina; yet the nerves unicate so that only one impression is conveyed sense. The arms are double, to suit the various es for which they are employed, and so are the imbs, an essential requisite for the support of ly, and for progressive motion. The lungs, too, said to be double, having two distinct lobes; sometimes happens that one of them is entirely or diseased, and yet the important office of tion is still carried on. The stomach, the liver, me of the other viscera of the abdomen, are, r, single, their several offices being common to ole body.

THE HAIR AND NAILS.

hair grows out from the skin somewhat in the r of a vegetable production. Hairs are fixed by n the skin, from whence, by a series of minute , they draw nourishment, and continually in- in length. They possess no sensibility, however, like the other parts of the frame, may be cut off t producing the least pain. Hair is of different in different individuals—is fair in those of light xion, and deep black in the swarthy. In old age ches, and even in many young persons, where

there is a particular disease in the hair, or dryness in the skin, this colour changes to grey and white. The colouring matter of the hair is contained in the centre, which is of a hollow form, and consists of an oily substance, in which carbon or charcoal, in minute particles, is more or less mingled. The nails are somewhat like hair in their production and composition; they are, like hairs, insensible to the touch, and may be cut or pared without producing pain. They receive nourishment from the blood-vessels of the extremities, and have a constant growth or renewal of their substance. Nails serve as a defence to the tender parts of the fingers; in animals they form formidable weapons of attack. The horns of cattle are exactly of the same nature as nails, and are chiefly composed of animal gelatine.

The manner in which the various secretions take place in the system, that are to form hair, nails, wax for the ears, blood, perspiration, &c., cannot but excite our admiration; for the whole is a chemical process of the most perfect kind, and such as art possesses no power to imitate.

THE SKIN.

An external compact membrane or skin covers the whole body. The outer skin, or cuticle, is unprovided with any blood-vessels or nerves, and consequently is insensible; in this manner it is well suited for a protection to the parts beneath; it is pierced by innumerable minute pores, which are the mouths of the exhalant vessels: it is thicker in the palms of the hand and soles of the feet than in any other parts of the body. Below the outer skin is a thin membrane, called the *rete mucosum*, which, assuming different hues in different nations, gives rise to the variety of colour in the human race. Some have held this membrane to be double, but this is not established. In Europeans it is white, passing into yellowish brown; in native Americans, of a copper colour; in Negroes, of a deep black. The common belief is, that climate has the effect of modifying the colour of the skin, as the black skin only occurs in tropical regions, and it is found that there it is a protection against the scorching influence of the sun's rays. Negroes will remain cool and comfortable exposed to a sun which would be intolerable to a white-skinned person. Their free perspiration seems to be of great service. Immediately below this network is the *cutis*, or true skin, an extremely sensible membrane, so thickly studded with minute blood-vessels and branches of nerves, that the smallest-pointed needle cannot prick it without touching many of them. On the points of the fingers, lips, and other parts of the body, these vessels are very numerous; and hence these parts are endowed with exquisite feelings of touch. Below the skin is situated the cellular membrane, which is a network, whose interstices are filled with fat, and it thus serves to fill up the spaces between the muscles, and to make up the shape, and preserve the symmetry, plumpness, and beauty of the whole frame. In cases of emaciation, this fatty matter is sometimes entirely taken up by the absorbent vessels—as after a tedious fever or other lingering disease—when the rough outlines and indentations of the muscles, and the projections of the bones, become painfully apparent.

SLEEP.

The various functions of the body are divided into voluntary and involuntary. When we eat we perform a voluntary motion, but digestion is performed without the action of the will, or is involuntary. The whole interior functional operations are involuntary, and go on whether we are awake or sleeping.

As a constant supply of food is necessary to repair the waste of the grosser parts of the body, so sleep is essential for the repose and renovation of the finer and more subtile nervous energy. Mere rest alone will not recruit the animal frame, but sleep, or a profound oblivion of feeling and sensation, and of every external circumstance, seems essentially necessary at every periodical revolution of the day. Toward th a day of exertion, the muscular powers wh been employed in motion, and in sustaining erect, begin to suffer particularly; the eye dim and heavy, and the eyelids close involunt lower jaw falls down; the circulation of through the lungs is sluggish, hence frequ ing is caused; the head nods forwards; all objects affect us less and less; the thought confused; and at last the profound oblivio ensues. We are unconscious of the exact when we pass into sleep, but occasionally it that immediately afterwards we are awaked vulsive start, which is caused by the sudden in of the powers of volition, when as yet but imperfectly lulled to rest. Sleep is quite es existence. Deprive a person of sleep, and sinks under the privation more rapidly th famine. Indeed, no circumstances, however will prevent the approaches of sleep for any time; and under the severest calamities, and e in the hour of battle, or when suffering from fatigue, or cold, or hunger, sleep steals upon w the senses in oblivion. Healthy sleep is so pr to resemble, in all that regards self-consciousn itself. Sometimes, however, the mind exert vity, though it is but a partial exertion; a dreams, or thoughts of sleep, are made up of gruous associations, such as thoughts of the and incidents of long bygone years; scenes experience, and others totally imaginary, mixed up and jumbled together. In sleep continues to beat with regularity, and the q of the blood is carried on throughout the body; perform their functions, the stomach digests bowels, and all the glands for secretion, carry operations; in short, every thing is carried on with the sustenance of the body and the ex the vital powers; but for the most part all othe such as those over which we have a contr waking hours, are at rest. This is not always however, as walking during sleep, or somna is a peculiarity to which some individuals Dreams are most common when the sleep is or too long continued, and thus they occur towards morning, or through the night, if th is loaded and oppressed with food, or the mind and deeply impressed with cares and solicitu state of health and serenity of spirits, the most and most refreshing sleep is during the first the night. When asleep, the circulation and are both somewhat slower than when awake, animal heat becomes diminished; and this is why more clothing is required in bed than d day. This is the reason, too, why a person l to sleep out of doors, or on a sofa, with the u ance of clothes, feels chill and uncomfortable ing. Digestion, too, would appear to go on rously during sleep; and hence the impropriet to bed with a full stomach. During the darkness is the most natural and obvious tim for repose, and it is only the absurd encroac fashion that have well nigh turned day into n going early to bed, the damps and colds of avoided, which is of essential consequence, for the delicate. There is also a natural con the functions of the body with the periods o night, which makes sleep taken in the first p night peculiarly refreshing. The absence irritation of the head and other parts of the perfect rest of the mind and external senses great influence in promoting sleep. Again, a causes which weaken and debilitate the body, sleep; such as great losses of blood, cooling purgatives, coldness of the atmosphere; and such as opium and tobacco, drinking largely spirituous liquors, by first causing great e and afterwards a corresponding debility of th also predispose to profound and lethargic sle

disposition of woman:—"From the greater
f their frame, and from the numerous all-
nected with their temperament, combined with
tant familiarity with distresses which are not
, the sympathy of women with the sufferings
is much more lively, and their promptitude
ater relief, wherever it is possible, is much
r than in the generality of men. To the truth
mark every day's experience bears witness;
the testimony of travellers, it appears that
ation extends to women in all the different
ociety."

TEMPERAMENTS.

are certain conditions of the bodily frame
dently give rise to varieties of the human con-
and which have been called temperaments.
e been peculiarly the object of attention to
heim, and others of the phrenological philo-
As their views on this subject seem to us of
ar order, a passage is here extracted from
e journals devoted to that science. "Dr
n," says the journalist, "recognises four pri-
ardinal temperaments, to which he considers
dual cases may be advantageously referred,
pure, or much more frequently as consisting
more combined. I shall first give Dr Spurz-
ief description of them, and shall afterwards
pon each in detail.

e lymphatic, or phlegmatic temperament, is
by a pale white skin, fair hair, roundness of
repletion of the cellular tissue; the flesh is
ital actions are languid, the pulse is feeble,
hole frame indicates slowness and weakness
retative, affective, and intellectual functions.

sanguine temperament is proclaimed by a
consistency of flesh, moderate plumpness of
it or chestnut hair, blue eyes, great activity
erial system, a strong, full, and frequent pulse,
imated countenance: persons thus constituted
affected by external impressions, and possess
nergy than those of the former temperament.

bilious temperament is characterised by
dark hair, yellowish or brown skin, black eyes,
ly full but firm muscles, and harshly-expressed
Those endowed with this constitution have a
marked and decided expression of counte-
hey manifest great general activity and func-
rgy.

external signs of the nervous temperament
hin hair, often inclining to curl, delicate health,
maciation, and smallness of the muscles, rapi-
e muscular actions, vivacity in the sensations.
ous system of individuals so constituted pre-
s extremely, and they exhibit great nervous
y."

ire lymphatic temperament is characterised by
omplexion, soft skin, mostly free from hairs,
laxen, the pulse weak and low; a general ten-
corpulence, and a deficiency of expression in

Instances of pure lymphatic temperament
rare than of either of the others, and per-
never to be found, except amongst females and
invalids, when past middle age, who, from the
exercise, have lost all trace of some other
ment which they may have possessed in youth.
ital characteristics of the lymphatic tempe-
re soon told; an insurmountable tendency to
, an aversion to exertion of either body or
m the hopeful traits. It is, therefore, obvious
estraining faculties, Cautiousness and (in some
ifestations) Secretiveness, are the only organs
operation of which it will correspond; while
her propensities, and the intellectual faculties,
nervated and restrained by it.

been generally supposed that the sanguine
on is produced by the perfection or relaxa-
the circulatory system; and it seems such a
supposition, that it is difficult for us to allow the

adaptation to external circumstances, analogous to the white hares and other animals of northern regions; but, if this is the case, it is difficult to imagine how it is that Laplanders should continue tawny, while the Fins, situated farther south, are fair. The most striking moral feature of the sanguine temperament appears to be a tendency to enjoyment of the present time, with little inclination to regret the past or to dread the future; and, in general, to look at either past or future no more than is accessory to happiness. The bilious temperament is characterised by a decided cast of features, complexion inclining to brown, dark eyes, and black or dark brown hair, with the muscles firm and well marked, and the figure, in general, expressive of vigour, with every motion significant and decided. In combination, it is frequently traced in a slight yellowness of the skin, which can only be detected by comparison, or an extraordinary acute perception of colours; for example, you may frequently find two persons, particularly ladies, the one with dark hair and eyes, the other with flaxen hair and blue eyes. The complexions of both would be denominated fair; on observing them near each other, however, it will be seen that the fairness of the dark-haired one differs considerably from the clear snowy whiteness of the sanguine.

With respect to the nervous temperament, it manifests itself in a remarkable quickness to learn and readiness of comprehension, but little tendency to sensual gratification, and an extraordinary power of passing from one subject to another."

MAN ADAPTED TO LIVE IN ALL CLIMATES.

Man has this superiority over all other animals, that he can inhabit every different region of the globe, however extreme the degree of temperature. He is found under the scorching sun and amid the arid plains of Africa, as well as in the frost-bound regions of Spitzbergen; and he is found to live and thrive under these different extremes, not only after a gradual naturalisation of ages, but can even move from one country to another, and undergo a vicissitude of climate with comparative impunity. Thus we see, even from our own country, emigrants going forth, and naturalising themselves very best for enabling them to live under extreme depression of temperature. The of hot countries, again, will be found livi fruits, and other vegetable substances, whic and genial soil produces in abundance, and their nature, are less heating and stimulati animal diet. In the intermediate and temper a mixed diet of animal and vegetable food i Much discussion has arisen whether man flesh-feeding or herb-eating animal; experie strates that he is equally adapted to become he will live on an almost purely animal diet on one purely vegetable; although, were w compare the form of his jaws and teeth, and structure of his intestines, with those anim on nuts and other fruits, and farinaceou substances, as, for instance, the monkeys, t proach of these to the human structure wo to us that at all events a farinaceous diet suitable to his natural organisation. We among all civilised nations that bread, and and mealy roots, in some shape or other, h a preponderance in every meal. But the art which man resorts to even in the first d civilisation, enables him to change the na various food, and to render it more suitab digestion and the purposes of nourishment gives him a wonderful superiority over all the animated world. Indeed, it is by thi mode of preparing his food, perhaps, as m original strength and perfection of frame, j other comforts of civilisation, that he is enab the vicissitudes of climate, and to prolong h longer period than the great majority of oth

Man has been formed with a naked sk evident intention that he should clothe him own labour and ingenuity. Almost all the more perfect animals have a covering of hair, or of down, which is at stated periods rene some animals in greater length and abunda ticular seasons, to suit the variations of te But man can always adapt his clothing to he inhabits, or to the varying alternations of

y have not only to acquire the words and their applications, but even to master the articulation s, with all their infinite combinations. The liberty, or that period when boyhood terminates hood commences, varies somewhat in different according to their high or low temperature; period may be reckoned about fourteen years; ween twenty and twenty-five, the growth of the erally terminates. About the age of thirty, be said to be in his full vigour, with his mental ly powers completely developed. Females arlier at a state of maturity than males: in warm females are full grown as early as their ninth year; in more temperate regions, about their or eighteenth year. The proportion of male born to that of females, is as 21 to 20; there a small superabundance of males; but, from causes, it so happens that there is generally superabundance of females actually existing ty. Among these causes may be mentioned, ter hardships and labours to which men are the effects of war, and, on the whole, the longer yed by females. This regular proportion of l female births throughout mankind in all ages, ll parts of the world, shows the admirable deprecision of an unerring nature.

OLD AGE.

ave seen that there is, within the animal frame, of operations, by which a constant supply of ment is afforded to make up for the daily waste ay, and that every part is constantly undergo renewal. To view a man in the full vigour then, we might suppose that, excepting accie was calculated to go on, in the course of e, for an indefinite period. The principle of ever, seems to have limits set to its duration, which it fails to keep in healthy motion the faculties. The apparatus of life is evidently but to last for a certain time. Old age creeps , and the vital flame burns fainter and fainter, t it sinks in the socket, and is seen no more. mmencement of decay is perceptible even in self. The child at first grows quickly, from and yielding state of all its vessels; but greese begin to thicken and get harder—a greater on of earthy matter is adding to the bones. tremities grow large, while the heart itself increase in an equal degree; hence the circ becomes less and less quick, till the period growth. When the growth of the body can no farther, a degree of fatness not unfreoccurs. This proceeds from the superabunrishment produced from the food, which, from etus or force of the circulation being more by the greater extension and resistance of , accumulates in the cellular textures and by of the extreme vessels. In every part of y, the induration produced by approaching omes conspicuous—in the bones now wholly in the skin, in the tendons, in the glands, in ries, and in the brain itself, which gets firmer er. Moreover, the arteries continue to get narrower, and even shut up in their minute s. At the same time, the nerves become more e callous and insensible to the impressions of es, and the muscles to irritation; thus, the conforce of the heart, and the frequency of its pulare diminished, and, of consequence, every ich impels the blood into the ultimate vessels. ality of humours is diminished in the denser he moisture which lubricates the solid parts ure manifestly decreases. Nor is the quantity ure only diminished; they themselves likewise vitiated. They were mild and bland in childhey are now acrid, salt, and fetid, and loaded reat quantity of earthy matter. This circumf the superabundance of earthy matter is evi- the gouty concretions in the joints of old people,

in different constitutions, the marks of old age begin to make their appearance. The skin becomes more lean and shrivelled; the hair changes to a grey colour, or baldness occurs; the teeth drop out, and, in consequence of this, the lower parts of the face, about the mouth and jaws, incline inwards; the muscular motions of the body become less free and elastic—this is especially seen in walking, old people generally treading on the whole base of the feet, and hence having a shuffling gait; the blood circulates slowly; the animal heat is diminished; the pulse occasionally intermits, and the whole energies of the animal frame become lessened; the eyesight begins to fail, and dullness gradually comes over all the senses; the memory undergoes a remarkable change—while recent events pass through the mind and make no impression, the occurrences of early life continually suggest themselves, and are minutely called to remembrance.

Although usually seventy years is the extreme period of human life, yet a small proportion of those born ever reach even this; a few rare instances occur where one hundred years or upwards are attained. The famous Parr lived to the age of 159 years; he married at the age of 120, and, when 130, was able to thrash, and to do every description of farmers' work. He was at last brought from the pure air and the homely diet of the country, into the family of the Earl of Arundel, in London, where he drank wine and lived luxuriously. The sudden change of diet and circumstances, however, proved quickly fatal to him. Henry Jenkins, another poor man, lived to the astonishing age of 169 years, and retained his faculties entire. Some time ago, a statement appeared of the ages of the resident pensioners of Greenwich Hospital, which contained at the time 2410 inmates. Of this number, 96 had attained to or passed the age of 80; one only was above 100; 15 were 90 or more; and 80 were 80 or upwards. About 42 of the 96 were of aged families, and in some of this number both parents had been aged. Longevity has in a great number of cases been found to be hereditary. Eighty of the 96 had been married; 79 were in the habit of using tobacco in some form or other, and 46 had drunk freely; 20 were entirely without teeth; 52 had bad, and 14 good teeth. But the oldest man in the house, who was 102, had four new front teeth within the two preceding years. The sight was impaired in about one half, and hearing only in about a fifth part of the number. Old people are not generally inclined for much exercise, nor is it suited to their stiff joints and impaired vigour; for the same reason they cannot endure much cold. Cheerful company, especially the company of the young, is peculiarly grateful to old people. Innocent amusements and recreations are also of great consequence, and the mind should be exercised in some useful or amusing pursuit. Cities, or at all events constant and agreeable society, are favourable to the condition of old age. In lonely secluded country places, the mind sinks prematurely into a total gloom and blank, for want of sufficient stimulus and variety to keep up the vigour of thought and play of fancy. Does death occur from what is commonly

The admirable structure of the body of a being—its superiority in every respect to the lower animals—afford a most perfect proof in the all-wise Creator, and is one of the most instances of the impossibility of our formation result of blind chance. Paley, after going over number of examples of this kind of design in proceeds to state that, in all "instances wherein feels itself in danger of being confounded by is sure to rest upon a few strong points, or upon a single instance. Amongst a multitude it is *one* that does the business. If we observe argument (he continues) that hardly two mind the same instance, the diversity of choice strength of the argument, because it shows the and competition of the examples. . There is a in which the tendency to dwell upon select topics is so usual, because there is no subject in its full extent, the latitude is so great, a natural history applied to the proof of an Creator. Perhaps the most remarkable in mechanism in the human frame are—the pi which the head turns, the ligament within the of the hip-joint, the pulley or trochlear m the eye, the epiglottis, the bandages which the tendons of the wrist and instep, the sin forated muscles at the hands and feet, the of the intestines to the mesentery, the coat chyle into the blood, and the constitution of as extended throughout the whole of the ani tion. To these instances, the reader's mem go back, as they are severally set forth in the there is not one of the number which I do decisive; not one which is not strictly mechan have I read or heard of any solution of these ances, which in the smallest degree shakes the sion that we build upon them.

The works of nature require only to be cont When contemplated, they must ever astonish greatness; for, of the vast scale of operation which our discoveries carry us, at one end intelligent Power arranging planetary syste at the other, concerting and providing an ap mechanism for the clasping and reclasping o ments of the feather of the humming-bird. proof, not only of both these works proce an intelligent agent, but of their proceeding same agent; for, in the first place, we can identity of plan, a connexion of system, from our own globe; and, when arrived upon our can, in the second place, pursue the connexi all the organised, especially the animated, bod it supports. We can observe marks of adap tion, as well to one another as to the element their habitation is composed. Thereby we p planned, or at least hath prescribed, a genera all these productions. One Being has been c in all."

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OGY.—BOTANY.

iple, it may here be stated that the parent vege-
is charged with the function of liberating germs
eds, which vegetate as soon as brought into a sou-
n fitted for their growth. A seed is like an egg in
acter, for it possesses in itself that amount of nou-
ent which will enable it to subsist in the ground
g germination, or until it draws the means of
nce from the soil and atmosphere. Most kinds
eds, being contained in husks or shells for their
ervation, are able to retain their vegetative power
long period of time, if entirely excluded from hear,
and moisture; thus, on turning up soil which had
covered centuries ago, a new order of vegetation
ways observed to arise from the long-buried seeds.
may be further mentioned, as a provision in the
omy of vegetation, that, while each species of
s is incapable of being transformed by reproduc-
into any other, it is possible, in some instances, as
e animal species, to produce a hybrid or mixed
d, and, with the additional means afforded by culti-
n, plants and fruits may be improved in quality
very high degree. Thus, the common sour crab,
ing wild in our fields and hedges, is the uncultiv-
l original of the different varieties of the apple. Yet,
ntain this improvement, constant culture, trans-
ing, crossing, or grafting, are required. The plant
ly improved as respects itself, and if its seeds be
ed to grow up without culture in a poor soil, they
produce plants exactly resembling their humble
nal.

e term of vegetable existence, from the period of
ination till the final decay of the plant, is ex-
ely various: some plants are annuals, or grow but
ne year or season; while others are perennial, and
inue their growth from year to year; trees are
g the longest lived plants, some being known to
for upwards of two thousand years. The repro-
ive powers of plants are likewise very varied;
t may be stated in general terms, that in each case
re has provided effectual means of perpetuation,
r by means of roots or seeds, or by both. This
r of reproduction is strikingly observable in such
ts as the potato, which propagates by oviparous
pendent from the stalks, and by the tubers cling-
o the roots in the ground. In most instances, the
icial deprivation of the seeds before they arrive at
urity, incites the reproductive powers of the roots,
they increase in bulk, or throw up new plants at a
nce from the parent stem. When annuals have
ed their oviparous offspring (grain in the ear, for
nce), the object of their growth is accomplished,
they forthwith droop and decay.

he development of vegetable life is greatly dependent
ertain concurring agents, among which, in a parti-
r manner, are included *heat*, *air*, *moisture*, *light*, and
Each of these agents, however, is limited to a
range, and this range is different in different

so that excessive heat and excessive cold, and also the extremes of drought and of humidity, are always unfavourable to vegetation generally, though not to all kinds of vegetables. Thus some mosses and other plants, whose parts are few and little developed, continue to grow in very cold weather, and even under the snow; others, which generally contain much juice in their substance, but which are covered with an epidermis so compact that it resists the action of heat, and prevents any evaporation of the juice of the plant, live in situations where the heat is extreme, and during that part of the year when excessive drought renders the common vegetation as inactive as it is in polar countries during the depth of winter.

The condition of the atmosphere as respects temperature, moisture, and other qualities affecting vegetable life, is comprehended in the term *climate*. No two places at a distance from each other can be said to have the same climate, because each is subject to particular influences not affecting the other to the same degree. That district will possess the most genial climate, and be best adapted for the perfection of vegetable life, which at once lies most fair towards the sun, and is exposed to the action of refreshing rains, or is moistened in some other way. A free exposure to the sun throughout the year is equal to several degrees of latitude nearer the equator, other circumstances being favourable. The more free the exposure, the more readily will most plants blossom, and yield a rich fruit; so well is this understood in the grape countries on the Rhine, that the right bank of that river, which faces the sun, is reckoned to be much more valuable than the left, and commands a higher price for its wines.

The character of the vegetation in tropical and extreme northern and southern climates, is of the most opposite kind—the one luxuriant and continuous, and the other only for a short period during summer. In the tropical regions there is always about twelve hours of sunshine, and nearly the same length of darkness; and when the air is clear, the action of the sun is generally sufficient to occasion a suspension of the powers of many vegetables, or what is sometimes called *a sleep of plants*, during the heat of the day. But, unless for local circumstances, the chief of which are alternate successions of drought and rain, there is nothing in the mere solar action which can affect vegetation there very much more at one time of the year than at another; and therefore, considered with reference to the sun alone, the vegetation there is not only generally evergreen, but ever-growing, ever-flowering, and ever-ripe and in fruit.

In the extreme northern and southern latitudes, a portion of one half of the year is continual day, and a corresponding portion of the other half continual night; and when the continual day approaches, if part of the heat of the sun were not occupied in melting snow and ice, and turning into vapour the water which clouds the atmosphere and mitigates the ardour of the solar heat, the action of the sun in those high latitudes would at these times be excessive. As it is, vegetation, during the short period that it acts, is more vigorous in such parts of the polar countries as are out of the range of the cold produced by melting snow or ice, than it is in any other part of the world; and even in Lapland, we have the expansion of the bud, the blowing of the flower, the ripening of the fruit, and the preparation of the new bud, in little more than half the time in which these operations take place in the temperate climates. This state of things requires a suitable character in the vegetables placed in those countries—they must be capable of resisting equally the ardour of summer and the rigour of winter. For this purpose, such vegetables as stand exposed to the air at both seasons, form complete buds, encased in a hybernaculum, composed of a number of scales of a resinous or gummy consistency, with thin strata of dry air between them; and buds so shielded are proof against the utmost severity of cold. The more lowly plants of such places are defended by the snow which ground; and thus, though the action of th world is limited in its annual period, and number of species in which it is displa perfect in its system, and as secure in its as in the tropical regions. Between thes there is a regular gradation; and taking th observation along with us, we are in pos least the elements upon which a geograph may be formed.

While heat, variously modified, serves as citing cause of vegetable life, air and moistu are elements on which the vegetables feed The soil in which the plants have their roo atmosphere in which their branches and lea are the great laboratories of nature whence ments are drawn. To understand properly derive nourishment from these sources, it i to appeal to *chemistry*, or that branch of sci recognises the elementary properties of ma following are a few leading principles, briefly

"The substances which constitute the pri of every vegetable, are compounds of ca oxygen and hydrogen in the proper relative p to form water. Woody fibre, for example, i of such compounds of carbon with the el water. In another class of substances cont bon as an element, oxygen and hydrogen are sent; but the proportion of oxygen is gr would be required for producing water by t the hydrogen. The numerous organic acid in plants belong, with few exceptions, to this third class of vegetable compounds contain c hydrogen, but no oxygen, or less of that el would be required to convert all hydrogen i These may be regarded as compounds of ca the elements of water and an excess of hydro are the volatile and fixed oils, wax, and the re juice of all vegetables contains organic acids, combined with inorganic bases or metallic o these metallic oxides exist in every plant, a detected in its ashes." *

Nitrogen also forms a portion of most pla an important ingredient in the substan gluten, or the starchy material of farinace tables. It is chiefly drawn in the form of from the soil to which animal manures have plied. In general, carbon is the fundamental cipal element in plants, and this is derived el the atmosphere. The carbon exists in the at in the form of carbonic acid, or in a state of oxygen; and therefore, before appropriating bon, plants must necessarily decompose the at This process is actually performed by the kingdom. Plants possess the power of separ carbon of the carbonic acid from the oxygen, ing upon the carbon, return the oxygen to t sphere.

The process of decomposition and appro performed by the leaves and other green parts these constituting the breathing apparatus. the performance of this remarkable chemical a from the sun's light is necessarily required. vegetables are in a considerably darkened sta the day, and in darkness during the night, carb is accumulated in all parts of their structure; assimilation of the carbon and the exhalation o commence from the instant that the rays of strike them. As soon as a young plant breaks the surface of the ground, it begins to acquir from the top downwards, and the true form woody tissue commences. Plants thus improv by the removal of carbonic acid, and by the re oxygen, which is immediately applied to the us and animals.

The growth of plants, and their transform elementary properties in the soil and atmosphe

* Leibig's Organic Chemistry.

be regarded as a protracted and various process
chemistry of nature, proceeding on fundamental

In order that the process may not be defeated,
atmospheric air, and also the sun's light, must be
d in their proper proportions, independently of
vater. The air best adapted for robust vegetable
h is that of an ordinary density, near the sea's

Generally speaking, the more elevated the sta-
f the plant is, its action is the less, because the air
dense, therefore colder, and is understood to have
r evaporative power; but mountainous countries
nerally much better supplied with humidity than
; and therefore the dwarfed growth of plants in
situations must be considered as resulting much
from their diminished action than from any ex-
f evaporation. Hence, as we ascend the slopes of
ains which are of sufficient elevation for having
summits covered with perpetual snow, we find
them plants resembling those of a succession of
les, gradually getting colder than the mean tem-
ure of that which answers to the level of the sea,
same latitude as the mountain. So that, upon
ofty mountains near the equator, the Andes in
Peru, for example, we meet with something re-
ing the succession of plants in the whole quadrant,
he equator to the pole. But it is a resemblance
nd not an identity; because, although it be pos-
o find upon the side of such a mountain places
have the same mean temperature for the year as
d in every parallel of latitude, yet both the daily
ie seasonal distribution of the sun's action are
lifferent; and it necessarily follows that the
and even the characters, of the vegetables are
r so.

aid air supplies some vegetables with all the nou-
nt which, from their situations, they can possibly
; and therefore we may conclude that it is
e of affording some nourishment to every vege-

But the air also acts as a drain upon vegetables,
oving out of their structure a portion, and some-
a very large portion, of that water which is neces-
r the purposes of growth; and in proportion as
is more humid, it must perform this function
rfectly. We must therefore suppose that there
ertain degree of moisture, and of evaporative
jointly, in the air, which is best adapted to the
r action of plants; but what this is must depend
he nature of the plant, and must therefore be
ined by direct observation. Indeed, this is one
circumstances which tends to the local distribu-
the different kinds of plants, as we find them in
of nature; but, like the others, we cannot so
te it from co-operating causes as to obtain the
its action. There is one other circumstance con-
with the air which is worthy of notice, and that
ther it be more generally stagnant or in motion.
erfectly evident that the action of stagnant air
a plant must be every way less than that of
g air, whether we suppose the action to be of one
r another; and therefore, up to a certain point,
in the air must be favourable to the growth of
bles. Of this there have been proofs by direct
ation, in the same part of the world; and when
mine different parts of the world, we find proofs
are much more striking: thus, for instance, the
wind of the Atlantic sets constantly against the
of Brazil and Guiana, and up the valley of the
m, until its motion is gradually destroyed by the
mass of vegetation over which it passes.

Oriental isles, and the southern part of the
peninsula, are in like manner exposed to a con-
current of the air; and those two regions are, in
t of the number, the variety, the beauty, and the
y of their vegetable productions, the very gardens
two hemispheres. Even when the current of air
lternating one, the return of which is actually
urable to vegetation, such a situation is still
favourable upon the whole. Of this we have
g examples in the valley of the Mississippi, the
Malabar coast of India, and even in the British islands,
and, generally speaking, along the whole of the west
coast of Europe, where the advantage is not counter-
acted by some local cause.

Winds are therefore to be considered as performing
an important part in the economy of nature. From
northern and southern latitudes, where there is a small
supply of sun's light during winter, with weak vegeta-
tion, and consequently a superabundance of carbonic
acid in the atmosphere, the winds convey the delete-
rious material to tropical regions, where, by means of
the brilliant sun's light and strong vegetation, it is
readily and profitably consumed. Streams of wind in
a contrary direction, or from the equator to the poles,
in the same manner bring to us the superabundance of
oxygen produced from tropical plants. While heat,
moisture, air, and light, variously modified in the mul-
tifarious climates on the globe, produce the extraor-
dinary diversity of vegetable growth, another set of
circumstances affect the life of plants, and these relate
to the nature of the soil in which they are placed.
Although properly belonging to GEOLOGY, we shall pre-
sent a short exposition of what soils usually consist.

The soil is mainly composed of particles which have
been disengaged by various means in the course of time
from the rocks on which it rests. In some instances,
and more particularly on hills, it is composed chiefly of
pulverised materials from the rocks immediately at
hand or beneath; but in many others, the pulverised
matter has been washed down from high into low
grounds, or transported by floods from great distances.
The action of the air and water on rocks in dissolving
them, and the power of the latter element in transport-
ing the disengaged particles, are the principal causes of
the present arrangement of the soil.

Notwithstanding the different appearances which the
earthy covering of the globe exhibits, it is composed
almost entirely of four substances, formed by an original
union of simple elementary matters. These four sub-
stances, washed at a former period from rocks, and
more or less compact from influencing circumstances,
are called primitive earths, and are named *clay*, *sand*,
lime, and *magnesia*. Clay is variously named alumine
or argillaceous earth; sand is sometimes termed silex,
silica, or silicious earth; and lime is commonly called
calcareous earth. The distinctive characters of all these
substances are well known. Besides these four earths,
which either in a soft or hard state constitute the soil
and subsoil, the upper stratum or mould contains the
relics of decayed vegetable and animal substances, also
certain metallic bases, generally oxide of iron. The
particles of decayed vegetable matter, sometimes termed
humus, and known as food for new vegetation, are un-
derstood to be in reality a deposit of carbon gained by
plants from the atmosphere. Ammonia, as already
said, is also an ingredient in fertile soils.

The whole of these circumstances, modified in a
variety of ways, influence vegetable growth, and require
to be studied by the cultivator of plants. It has long
been remarked, that plants have a tendency to exhaust
the soil in which they grow, and to exchange their situa-
tion for one more suitable to their wants. The following
propositions on this subject have been laid down by two
eminent French chemists, Yvart and Pielet:—1. That
every plant has a natural tendency to exhaust the soil;
2. That all plants do not exhaust the soil equally;
3. That all plants of different kinds do not exhaust the
soil in the same manner; 4. That all plants do not
restore to the soil the same quantity nor the same qua-
lity of manure; 5. That all plants differently affect the
growth of weeds. From these fundamental principles
the following conclusions are drawn:—1. However well
a soil may be prepared, it cannot long nourish crops of
the same kind in succession, without becoming ex-
hausted; 2. Every crop impoverishes a soil, in propor-
tion as more or less nutritious matter is restored by
the plant cultivated; 3. Perpendicular rooting plants,
and such as shoot horizontally, ought to succeed each
other; 4. Plants of the same kind should not return

too frequently in a circle of cropping; 5. Two plants equally favourable to the growth of weeds ought not to succeed each other; 6. Such plants as greatly exhaust the soil, as grains, should only be sown when the land is in good heart; 7. In proportion as a soil is found to exhaust itself by successive crops, plants that are least exhausting should be cultivated. It may be added, that a successive change of crops has a tendency to destroy noxious insects, as those which are produced by one crop cannot be supported by another of a different description.

Nature, when unassisted, invariably makes an effort to change the crops of plants. When a forest in North America is burnt down by accidental fires in the summer season, trees of quite a different kind spring up from long concealed seeds in place of those which have been destroyed. When, in ordinary circumstances, one kind of plant has exhausted the soil in its neighbourhood, it pushes its roots to as great a distance as possible in quest of food, and there sends up shoots, while a new race of plants grows upon the spot which it has vacated. The seeds of certain plants, such as the dandelion, thistle, &c., are furnished with downy wings, by which they are rendered buoyant, and carried away from the parent plant by the slightest wind. The seed-vessels of other plants, such as the whin, when ripe, burst open with considerable force, and scatter the seeds to some distance from the place where the old plant grows. In these, as in a thousand other circumstances, we find that one of nature's great primary laws is that of perpetual change—an alteration from one condition and appearance to another, in endless succession and variety. In the artificial cropping of the ground, the farmer, for his own sake, is impelled to take a lesson from nature, and to study what species of plants he can most advantageously produce in succession from his fields. Hence, *aration*, or the *rotation of crops*, as it is differently termed, is a matter of first importance in husbandry.

A long course of experience and scientific inquiry have proved that all soils are capable of being improved by art, and supplied with restoratives suitable to the demands of the proposed vegetation. These artificial restoratives receive the name of *manures*, and are commonly in the form of animal excrements, these containing ammonia, one of the bases of vegetable structure, in greater or lesser abundance. Some idea of the powers of restoration from substances of this nature in a due state of putridity or decomposition, is obtained from the fact, that, from every pound of ammonia which evaporates, a loss of sixty pounds of corn is sustained. Potash, soda, gypsum, and other materials, also constitute manures, or bases whence are drawn fertilising principles in vegetation.*

CLASSIFICATION OF PLANTS.—LOWER FORM OF VEGETATION.

According to the latest researches of naturalists, about 80,000 plants of distinct specific forms have been discovered, but it is believed that as many more remain to be made known, and additions to the list are constantly taking place. For the sake of order and classification, as in the case of the Animal Kingdom, all plants, from the lowest to the highest forms of vegetation, are arranged in a progressive series of groups or families, the members of which possess a common resemblance, or are otherwise allied in character. This very necessary classification belongs to BOTANY—a term from the Greek, signifying a plant—and an outline of the plan adopted is given in the latter part of the present sheet. Here it is only necessary to mention, that, according to the Linnæan system, the whole Vegetable Kingdom is arranged in two grand divisions, namely, plants having visible flowers (*Phænogamia*), and plants having no visible flowers (*Cryptogamia*).

* To students who desire full information on this highly important branch of vegetable economy, and particularly all who are to be engaged in agricultural pursuits, we recommend the *careful study* of "Organic Chemistry," by J. Leibig; published by Taylor and Walton. London. 1840.

The whole are also divided into classes, orde and species, each species containing a numbe ties.

The lowest forms in which vegetables m appearance are those of the *cryptogamia*,* am are included the *fungi*, the *musci* (mosses), (liverworts), *lichines* (lichens), *algæ* (sea-w *filices* (ferns), &c. The fungi, which may be the very bottom of the vegetable scale, are o in a great variety of forms, and, among othe rooms, toadstools, puff-balls, the fungous dry mentation, mildew, and mould. We may tak mentioned as about the lowest in the group. most persons are aware, makes its appearan surface of various familiar objects—decayi fruit-preserves, cheese, and old shoes. It never on any thing which is new or fresh, but is alw binger of decay, and may be considered a f towards the decomposition of the substance into stituent elements. How vegetation should app secluded a situation as the inner cracks in chee a jar of preserves placed carefully away in a c or on the leather of an old boot in the remote co bed-closet, is at first sight incomprehensible; b sideration of the reproductive powers of fung explains the circumstance. The whole of the tribe possess the most extraordinary productiv Instead of propagating by the ordinary and cess of elaborating and throwing off seeds, they by the dispersal of their entire substance. E ticle in their mass is a germ, or technically which, though smaller in bulk than a parti dust, and generally so minute as to be invisible to the naked eye, is the embryo of a new plant, and will develop its powers of vegetation as soon as placed in an appropriate situation for its growth. In this manner, a toad-stool having performed its office and exhausted its means of nourishment, shrinks, dries, and dissolves in millions of atoms, which, being liberated and floated away in the atmosphere, are deposited in every imaginable Some are inhaled into the lungs of anim others enter into the fabric of trees and h in short, they find admission into every exp penetrable substance. It is, however, a distin ciple in fungous vegetation, that it can deve only in decaying bodies. Decay, or liability is necessary for its fructification; and when dition ensues, and other circumstances are the embryo expands and rises with surprising into notice.

Large fun

A very remarkable kind of fungous veg known to make its appearance in wine cellars stance which supplies the growth being the va the wine in the casks or bottles. If the cella and dry, the vapour escapes, and no fungous v is manifested; but if it be somewhat damp and from air and light, the fungous growth becom apparent. Round every cork a mould-like v will exhibit itself, and the vapour from the ca to the vaulted roof, will there afford nouris great festoons and waving banners of fungi wine vaults of the London docks, this kind fungi hangs like dark woolly clouds from the pletely shrouding the brick arches from ob On a small piece being torn off and applied to of a candle, it burns like a piece of tinder wine escape from a cask in a moist and ill-cellar, it will altogether resolve itself into substantial kind. A circumstance of this na

* A term signifying *hidden marriages*, or, by a liber tation, plants whose means of reproduction are not obvious, as in the case of flowers.

ke locusts in other lands. In almost every
ere are some species, but especially in autumn
many, which in this manner put forth their
; and then, like the spirits of the poet, which
the spacious hall, 'reduce to smallest forms
pes immense.'"

now be understood that mould is a fungous
n, produced by a previous deposit of germs in
e or on the surface of the object on which it
the proximate cause of its development is gene-
up, and, without this condition, the embryo
in a dormant state. Still, it may be asked, how
appens to have green mould at its very centre:
is, that the fungous germs floating in the at-
e had various opportunities of finding admission
article of diet. They may have been deposited
ass of a field; the grass was eaten by the cow,
germs were so lodged in the milk; or, what is
bable, the germs fell upon the curd, and there
ealed till a certain dampness in the cheese
their vegetative powers into operation. It is
wn that the exposure of curd for a day *in* the
ere will have the effect of producing cheese
mould. The mouldiness of Stilton cheese is
, we believe, by practising this device. Those
to make sweet cheese, not readily liable to
hould avoid exposing the curd to the atmo-

more surprising instance of fungous vegetation
nded situation, is that which occurs in the fer-
of yeast, and other substances. Fermentation
respect, a chemical process, forming a first
rds dissolution, but the action is also vegetative.
le mass of matter gradually assumes the con-
active vegetative growth. The fungous germs
d been incorporated in the material, begin to
expand, each being a plant which grows and
se to new plants of the same species. A
author observes of fermentation at this stage
rogress—"If a small portion of the fluid be
d at intervals with a powerful microscope, it is
t each of the little vesicles contained in it puts
e or more prolongations or buds, which in time
new vesicles like their parents; these, again,
the same process: so that within a few hours
le vesicles have developed themselves into rows
five, or six. This is not the only way, however,
they multiply; for sometimes the vesicles are
l to burst, and to emit a number of minute
, which are the germs of new plants, and which
elop themselves into additional cells. By the
t five or six vesicles are found in each group,
entation is sufficiently far advanced for the pur-
the brewer; and he then takes measures to
, by which the vegetation of the yeast is sus-
The groups of vesicles then separate into
als resembling those which first constituted the
nd thus, a greatly increased amount of this sub-
the result of the process." *

ay learn from these observations that the germs
, necessary to produce dry rot, mould, fermen-
nd other species, are dispersed throughout all
matter. Every thing we eat, drink, taste, or
inisters to our wants, contains the germs of
nd all that is required to bring them into visible
n are certain conditions of decay, heat, and
e.

generally allowed that the algæ embrace the
inute forms of vegetation (not of a fungous cha-
One of those forms is that which has vulgarly
lled *red snow*, or *bloody rain*. A shower of red-
rain or snow is by no means a rare phenomenon
orthern parts of Europe, or within the arctic
and the tinging matter, which has been accu-
xamined, is found either to proceed from the
ration of vegetables or animalcules, both too
be seen by the naked eye. The colouring vege-

* Popular Cyclopædia of Natural Science.

table matter is an aggregation of an infinitude of plants either sucked up by a water-spout into the atmosphere, or overtaken while carried along by the winds, and brought down by the falling drops. On the stones by the side of brooks, we may sometimes observe a similar reddish colouring matter, which, if not caused by metallic ores, will generally be found to be a primitive kind of vegetation. When touched, it feels slippery, and on examination by a microscope, it is observed to consist of myriads of plants, each consisting of a small vesicle or globule, which, on arriving at maturity, expands, bursts, and liberates plants of its own species. This excessively humble plant is classed with the algæ, as being the nearest to it in character, although these plants are for the most part of a large size, and grow principally on rocks in the sea.

The object which nature has in view by the germination and dispersal of the algæ, mosses, and lichens, is clearly that of preparing the way for a higher order of vegetation. It cannot possibly escape our observation, that the tendency to vegetate is a power restless and perpetual. We hew a stone from the quarry and place it in a damp situation, on the ground or in a wall, it is all the same which, and shortly a green hue begins to creep over it. This is the commencement of a vegetable growth, produced by germs floated in the atmosphere, and being attached at random to the stone, have been brought to life through the agency of the moisture. Other stones equally exposed, but in dry situations, have also received a clothing of these germs, but circumstances not being suitable, they have not been developed: give the moisture, and they will immediately appear. We hew another stone from the quarry, and build it into the pier of a bridge, just within the surface of the water. Shortly, the same kind of green algæ will appear; but the wet being in greater abundance and more continuous, the growth will become more luxuriant. Instead of the simple green hue, we have the addition of long filaments resembling green hairs, which float and accommodate themselves to the water around. This kind of plants, which are known to naturalists as the confervæ, propagate, like others of the cryptogamia, by a rupture of their tissue, and the liberation of germs, which become plants of the same species. Of course there cannot be a doubt that all open ponds, lakes, and running waters, abound in germs capable of producing this green filamentous vegetation.

The inquiry may perhaps here be made—supposing that nature designs this species of growth to be a forerunner of a higher order of vegetation, how is that result to be brought about? To answer this, we must take an expansive view of the subject, and not confine ourselves merely to one department of science. Nature is incessantly working out vast ends by humble and scarcely recognisable means. It seems to be a principle that nothing shall remain stationary or unchanged. The whole surface of our planet is every instant altering in its features. Mountains are being washed down into the plains, rocks are mouldering into soil, the sea is filling up at one place and encroaching on the land at another, and water-courses are constantly shifting their outlines. The duty of filling up seas, ponds, lakes, and rivers, is consigned to divers means within the animal and vegetable economy, and one of these is the growth of algæ and other aquatic plants. Take a pond of water, and shut off its means of supply from rivulets and springs, and then observe what an effort nature will make to fill it up. The sides and bottom become speedily covered with a luxuriant crop of confervæ; other plants, which grow only in water, begin to make their appearance, their seeds being wafted thither by winds; at length the superficial matting of herbage is able to support the weight of birds, grass grows, there is alternate vegetation and decay, and finally the pond is filled up. This routine is observable in many small lakes which are fed by weak springs, and, except for an artificial clearing out occasionally, they would in a short time become *dry land*. What, indeed, are the extensive peat-mosses *but lakes* and pools choked with vegetable matter, which remains in a half-consumed condition. see that the green hair-like ooze which stones in the water, humble and apparent cant as it is, performs a distinct part in cessary to work out the important design dence.

Algæ.

The algæ are the vegetation of the deep, as immense forests in the rocky bed of the they furnish food for animals, and assist in and altering the channels. On being decomp afford an alkali to soap manufacturers, and s ingly useful in furnishing iodine, a substance now used in medicine for reducing glandu ings.

Lichens are a numerous family of plants, various appearances. Their usual aspect is crust of a grey or yellow hue, and their s place of growth is on old walls, gravestones yards, and rocks; they are also seen grow trunks of old trees. Their structure is ve

Lichen.

each plant consists of a membranous scale, divided into lobes, and they cling to the objec they grow by means of small filamentous ro insinuate themselves into the most minute Growing usually as parasites on some kind of stances, they derive their nourishment exclus the atmosphere, and only require pure air light, with a fair proportion of moisture, for sistence. Their whole economy being rudim simple, they are capable of living at great al mountains, where the air is too thin for the the higher orders of plants; on this account are found flourishing beyond the limits of e kind of vegetation, even to the very verge of snow. At these great heights they cannot be of any service in preparing soil for plants of order, but they at least help to bray down t beds, and level mountains with the ground. From the atmosphere they have the power o oxalic acid, which, acting chemically on th base, causes small hollows, sufficient to gather the atmosphere; and the moisture finding it crevices, the rock is split by frost, and in time into fragments. The tenacity with which th to their situation, renders it difficult to scrape stones by art; but as light and air are essent subsistence, they may be easily removed by them over for a short time with a turf or earth. Gravestones whose inscriptions obliterated by lichens, may by this expedie pletely cleared from their growth. Liver superior kind of lichens, possessing leafy

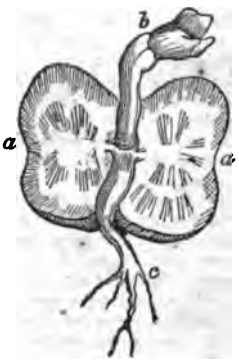
greater dimensions; they also seem to
tuations somewhat damp.
paratively mild climate, we have little
the lichenous family of plants, which
ish best in those cold regions of the globe
very other living thing would perish. In
rthern parts of the American continent,
d on the rocks a kind of lichen called by
ageurs *tripe de roche*, from its resem-
oiled, to tripe, and in which cooked state
l when more nutritious food is wanting.
called reindeer moss, is common in the
, where it grows to a foot in depth, and
source of the reindeer. The celebrated
s also abundant in these regions, and may
cooking to a fine mucilaginous substance.
oss, however, is misapplied to these and
hens and liverworts. Mosses are plants
r in structure
and generally
ater quantity of
sture, and soil
th. With moss

Moss.

ce the rudimen-
of root, stem, branches, and leaves.
bright green colour, a proof of the ac-
leaves or breathing apparatus; and their
, with minute feathery branches, are
st elegant structures of vegetable growth.
y in a peculiar manner. On examining
ass of moss, we may at certain seasons
st of small thin stalks raised considerably
ral level. These are the seed stems. At
h is a small pouch containing the seed,
ver with a lid or veil, which drops off
tifying matter is ripe, and suffers it to
eing elevated in this manner, and freely
wind, means are afforded of scattering
the recumbent moss, and for their being
s at a distance. The object seems to be,
active fresh vegetation on the surface of
ile a corresponding decay is going on
adding deposits of new soil. The whole
plant is beautiful, and it will be remem-
so much affected the feelings of Mungo
f his moments of desolation in the wilder-
ire him with an energy sufficient to carry
lifficulties.

ORMS OF VEGETATION.—PHYSIOLOGICAL STRUCTURE.

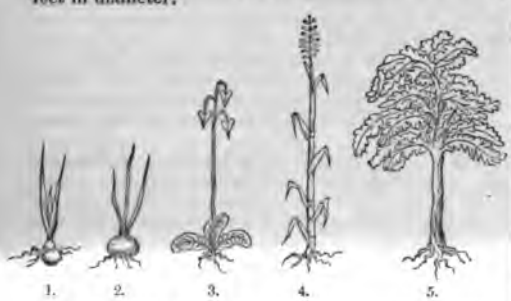
umble class of cryptogamous plants, we
second great division in the vegetable
ed the PHÆNOGAMIA, or plants which
ossess the attributes of distinct seeds,
ranches, and leaves.
eed, upon being placed in the ground, in
ds forth two shoots, one ascending and
m, and the other descending and forming
annexed figure gives a representation
ation of a dicotyledonous or two-lobed
seed lobes, *b* the leaf-germ, *c* the root
fibres.
quired for vegetation varies much in dif-
; thus the mustard takes little more than
the rose, the hazel, &c., require two years.
begins to germinate, it enlarges until it
ll. As soon as the embryo stem has
pen air, its leaflets are expanded, and
rm all the functions of leaves.
root (*radix* in Latin) is commonly de-
t part of a plant which attaches itself to
it grows, or to the substance on which
s the principal organ of nutrition. Ex-
his definition occur, as in the case of
es which grow floating loosely in water,
and others, having no root at all. As
ent of a plant is derived from the earth,
t part which grows in an opposite direc-
tion to the stem, and is buried in the ground. A root consists of several parts, which have been called the body or *caudex*, the collar or life-knot, the branches or radicles, when such exist, and the rootlets or small fibres, which seem to be indispensable in all roots. The body of the root assumes various forms; it may be globe-shaped, as in the turnip; conical, or tapering gradually from the collar to the attenuated fibre, as in the carrot; fusiform, or tapering at both ends, as in the radish; this latter may be abrupt, that is, as if the lower end had been cut off, exemplified in the devil's bit scabious; fibrous, or consisting of small thread-like fibres, which proceed directly from the collar, as may be seen in most grasses; tuberous, when the fibres bear globe-shaped bodies filled with starchy matter, as in the potato; fasciculated, when the fibres swell slightly in the middle; bulbous, when the round lobe consists of coats or layers, such as may be seen on cutting an onion across. A corm is similar in form to a bulb, but is not composed of layers; a palmated root consists of a number of oblong tubers proceeding from the collar, like the fingers from the body of the hand, as in the dahlia. Tuberous roots, such as the potato, are considered by some modern botanists as merely underground stems, from the circumstance of their having eyes, or buds, from which branches will spring. The crown, collar, or life-knot, as it is variously called, is that part which lies between the stem and the root It is the most essential portion of the whole; for, if it be removed or seriously injured, the plant will inevitably die; whilst the small fibres or rootlets, although an essential part of a plant, may be destroyed at pleasure so long as the crown remains, for it readily reproduces them. When it is of a slender make, as the seeds form, it dries up, and the plant soon dies. Such plants are termed annuals, as the poppy, mignionette, and others. The crown, however, in some cases, by proper treatment, may be rendered so strong that annuals can be brought to grow two years, when they are termed biennials; or for three years, when they are called perennials. The fibrous root consists of a quantity of long thin fibres, of different lengths and thicknesses, and having still finer ones springing from them, as in the case of wheat, barley, and most grasses. These small fibres or rootlets bear a resemblance to the branches and leaves of the stem. Fibrils consist of a central fasciculus of vessels, enclosed by a cellular cortex and cuticle. Like the leaves of trees that are not evergreen, they are annually produced; in some cases dying and falling off like leaves, in others becoming thicker, harder, and forming radicles or root-branches. The spongelets, as they are called, which take up nourishment from the soil, are situated at the extremity of these rootlets. They are minute spongy bodies, of an oblong shape. We have an instance of rootlets falling off like leaves in those arising from bulbs—such as the lily, the onion, the tulip, &c., which are pushed off and perish like leaves by buds containing the rudiments of the rootlets to be evolved next season.



Roots have a remarkable tendency to grow downwards, or in the direction of the earth's centre, and, from experiments, it is likely that this tendency is an effect of gravitation. The precise direction, however, is very much influenced by the condition of the soil. Both root and rootlets extend as if in quest of food, and this will penetrate sideways or obliquely to great distances. When plants are by any means prevented from fructifying by seeds, they almost invariably increase by extending their roots, from distant points of which new plants will spring up.

The stem or stalk.—When a plant shows itself above the ground, it evidently manifests a strong tendency to the light. Light, in fact, is essential in bringing it to maturity, and in giving the green colour to its leaves. The stem, with a few exceptions, is always above ground, and is the perpendicular pillar from which various lesser growths, such as branches, shoot off laterally. "The stem," says Rennie, "is divided from the root by the part called the crown or collar. The space between the collar and the first leaf or bud is termed the bole; but the great body of a stem is called the trunk. The stem of grapes, corn, and reeds, is termed the straw; the stem of palms, ferns, mushrooms, and sea-weeds, is termed the stalk; the stem of such flowers as the primrose, the daisy, the snowdrop, and the lily, is termed the scape, though flower-stalk is certainly better; the running stem, as in the strawberry and cinquefoil, is termed a runner; a shorter runner that does not root, as in the house-leek, is termed an offset; a longer one that does not root, as in the cucumber, a vinelet; and a small stem proceeding laterally from a root or stool, a sucker."

The stem, it will be observed, assumes many forms and characters as to bulk, structure, position, place, and duration. It appears as a tuber (*Gladiolus*, 1), a bulb (the onion, 2), a scape (*Dodecatheon*, 3), a culm (*Arundo*, 4), or as a woody column (the oak, 5). It varies in size from that of a bristle to a trunk of many feet in diameter.



1. 2. 3. 4. 5.

When a trunk bears permanent or perennial branches, the plant is termed a tree; when permanent branches arise, not from a trunk, but from the root, the plant is termed a shrub; when small and much branched, a copse shrub; when furnished with woody branches that are not permanent, as in the tree mignionette, it is termed an under-shrub; and when the whole stem is not woody, and dies down every year, at least as far as the crown of the root, the plant is termed an herb; when a trunk is formed like the underground stem of the iris, of the hardened bases of leaves which have withered and fallen, and is not taper, but all of one thickness, giving off no branches, as in the date and cocoa, the plant is termed a palm.

Buds, which have various forms, but are generally oval or roundish, consist of the young shoots either of leaf, flower, or twig, and proceed from what is called the axil of a leaf. They are usually formed either early in summer or in autumn, and are so contrived as to preserve from injury the delicate foliated structure within. The outside is composed of tough scales, which are frequently covered with a gummy resin, and they are internally kept warm by a downy substance interposed between the leaves. Buds are in most respects like bulbs, the scales being composed of cellular tissue, with distinct fasciculi running through it. This separation of the vascular fasciculi is the feature which distinguishes these scales from leaves. The inner scales perform the functions of leaves, until these are perfected and fully expanded, when they drop off; but in some trees, as in the apple and the almond, they are converted into leaves; whilst in others, as the rose, they are converted into the pellicles or foot-stalks of the real leaves, which spring out of them. When the central part of a bud contains leaves only, it lengthens upwards as it expands into a branch; thus a leaf-bud and a may be said to be the same. When it cont this is situated as in the bulb of the tu small bulbs are formed on the edges of the root between the scales, which gradually e expense of the scales, are detached, be bulbs, and send up leaves and flower-st respect to the manner in which the leaves they may be plaited, as in the palm and lil as in the rose and oak; embracing, as in the sage; double embracing, as in valerian double compound, as in carrot, mimosa, inwards, as in grasses; tiled, as in privet rolled outwards, as in rosemary, primrose, lengthways, breadthways, rolled from the base, or wrapped round the stalk.

The buds of trees, being in a state of grea and feeling the first warmth of the sun, th the continued shoot is roused into action; it moisture contained in the neighbouring ce with nourishing matter; the rising sap also vessels; it gradually swells, and bursting th scales, pushes into the light and air, unfoldin successively as it advances, until the whole tr green.

Leaves.—Leaves are the grand ornament and from their numbers, position, and delica nisation, they are designed to effect an impo in the vegetable economy. Springing from the and exposed in profusion to the atmosphere, form the functions of a breathing apparatus to that of the lungs or gills of animals. A sa pose, at least, is designed, for the circulati plants, like the blood of animals, requires to b to the atmospheric influence, in order that suitable for nutrition. This purpose is acc by the agency of the leaves, to which the sap, from the roots through the stem and branch pelled or attracted, and there both air and li cise their beneficial influences. Gaseous quali ever, are emitted as well as inhaled by the le that they allow the escape of aqueous fluid known. Leaves are thus indispensable to th of plants, and care should be taken not to inju for defoliation, either naturally or by art or instantly arrests the growth, and the failure nished expansion of foliage is a certain sig bility.

A leaf consists generally of two parts, the p leaf-stalk; and the lamina, or that part which and thin. Sometimes, however, as in the ro stipules are attached to the base of the peti leaf-stalk is that part which connects the leaf branch, and at the base will be found slightly l in which a bud rests. Sometimes the leaf-stalk ing, as in the sow-thistle and catch-fly, and in the leaf is said to be sessile or sitting. The la broad part of the leaf, is frequently of a differe on the under side to what it is on the upper. exemplified in the common silver-weed (*Potenti rina*), the leaves of which are hoary on the l and green on the upper. Leaves are either falling in summer; *deciduous*, falling in autu *sistent*, remaining till pushed off in the followin or *perennial*, when of still longer duration, as greens.

Some leaves are of a very remarkable shap none of the foregoing characters can descri most remarkable of these is the pitcher plant (*N distillatoria*), which is seen in the annexed e leaves of this plant are sheathing at the bas the end of the proper leaf is a petiole or stalk inches long, which is terminated by a bladder sel, furnished with a lid. This vessel is alw with water, which appears to be distilled from itself.

With regard to the manner in which leave from the branches, and their distribution woody cylinder to which they are attached, e

its colour. External vegetable glands are either without a foot-stalk; and all these glands are with the cells more regular than those in the of the leaf, and arranged in circles: a cord can generally be traced into the substance of d. Bristles are sometimes the excretory ducts s, as exemplified in borage, the nettle, &c.

rs.—A flower consists of several distinct parts, s, corolla, stamens, disk, nectarium, pistillum, pistacle. A flower is essentially constituted by ence of sexual organs, either male or female. here is only one of these present, the plant is unisexual; but more commonly these organs present in the same flower, which is in this med a hermaphrodite. In some instances, although the same plant bears both male and female it is not hermaphrodite, as these organs occur ent flowers; in others, again, the male and fewers exist only in different plants. Lastly, male, and hermaphrodite flowers are sometimes found together, either on the same or on different foot-Sometimes the male or female organs alone, d in a small scale, constitute the flower; but in they are surrounded and protected by the and calyx. All these are commonly borne on a led the peduncle (from *pedo*, to prop or support), which, expanding at its extremity, forms the receptorus, as it has been called, upon which the whole arts above-mentioned are supported. What is e berry in strawberries, appears to be nothing an the receptacle bearing the naked seeds or ice. It is called common when a number of rest on one receptacle. The round button exposed when the downy seeds are blown from l of the dandelion, is an instance of the common le.

alyx is the external leafy envelope surrounding er, and in which it rests as in a cup. Sometis entire, but more frequently it is divided into s (*sepals*), which are more or less separated ch other. It is most commonly green, but in wers it is highly coloured.

orolla is the true flower or blossom, and consseveral divisions or leafy parts, called *petals*, re almost all articulated at the base, and comly fall off at the earliest manifestations of matdecay. The extensive variety of tints in the g part of plants, is a remarkable circumstance table economy; and what may be the precise uch gaiety of colour, has formed the subject of hic inquiry. Independently of the exceeduty to the eye, which is certainly a matter for gratulation, it is believed that the lively are useful in attracting insects, these creatures tally performing an office in the reproductive y, and in carrying off saccharine exudations.

lower part of the single petal of a corolla is he claw, corresponding to the stalk of the leaf; broad part is called the limb. The corolla is tly furnished with certain appendages, attached o the throat or to the base of the petals, called s. These are placed in different parts of the ; in the common auricula they surround the the throat; in the ranunculus or buttercup ey appear like scales at the bottom of the claw; the monkshood, in the form of a spur behind olla. They receive the name of nectaries from position that they secrete honey, and they are found to contain a clear, sweet-tasted fluid.

ens, &c.—Within the beautiful corolla are several small filamentous objects, on some of are particles of fine coloured matter like dust. re parts of the reproductive organisation, and of stamens and pistils. In general, a stamen of two parts, in most cases of a filament (from thread), which is usually white, and always of er, which is usually yellow or purple. It has own that the stamens are always next to the that is, between their base and the base of the

seed-organ. It is upon the number and arrangement of the stamens that systematic botanical arrangements have principally been founded. The following are a few characteristics of the number, length, position, direction, &c., of the stamens. The number of stamens in each flower varies from one to twenty, or more. In length, they are equal or unequal, and this disproportion is sometimes symmetrical, sometimes not. In position they may be opposed to the divisions of the petals, or they may alternate with them. Sometimes they protrude beyond the corolla, at other times they are wholly included within it. Their direction may be erect, pendant, or horizontal, and their summit is variously inclined to or reflected from the centre of the flower. The filament which supports the anther is most commonly straight and filiform; sometimes, however, it is otherwise. It varies, from being as small as a hair to be large and flat like a petal, and its summit is either pointed or obtuse. On the summit is that essential part the *anther*, which is generally formed of two small membranous sacs, attached immediately to each other, or united by an intermediate connecting body. In form, anthers are subject to great variety, and, like the filaments, they sometimes cohere so as to form a sort of tube. Their colour is often yellow, orange, violet, white, &c., but never green or truly blue.

The pollen contained in the anthers consists of numerous regularly-figured small particles, which p different plants a very different figure, size, a The number of particles in a cell, which is ve sometimes amounts to many thousands. In som the pollen consists of transparent grains; in oth are of a white, purple, blue, or brown, and m quently of a yellow colour. When a grain of dropped into water, it swells and bursts, and quantity of matter escapes, which is supposed t fecundating principle of the pollen.

We may illustrate the action of the pollen from the anthers, by referring to the annexed small engraving. *a* is the filament or stalk of the stamen, *b* is the anther on its summit, and *c* is the pollen or dust in the act of being shaken down upon the stigma or upper part of a pistil, of which we observe three in a group.

In this figure, it may be remarked, that the is a roundish-shaped body, delicately poised on ment, and ready to vibrate and shake its dust o beneath or near it.

In the larger engraving, figs. 9 and 10, the parts of the flowering structure are combined, are frequently seen in nature.

Fig. 9.

a a Stamens. *b* Stigma, or Summit. *c* Ovary, or Seed-Bag. *d* Filament. *e* The style.

Fig. 10.

f Peduncle. *g* Calyx. *h* Corolla.

The pistil is a kind of tube with a communication from the stigma, through its style or stalk to the ovary or seed-bag beneath, and down this the pollen is permitted to exercise its influence. The seed-organ or ovary occupies almost always the inferior part of the pistil, and it is there that the process of fructification is fully effected. When cut open, it exhibits one or more cavities or cells, in which are contained the rudiments of the seeds or ovula; and it is in it that the change of the ovula into perfect seeds is effected. It is of various forms, but most commonly ovoidal. It is generally seated upon the receptacle together with the stamens, but frequently it is placed below the flower. Its cavity consists of one or more cells, in which the ovula or rudimentary seeds are found. It may be remarked, that the pistils spring from a nectary or disc in the centre of the flower, and surrounded by the stamens.

The precise mode of fructification is nowhere clearly stated. The stigmatæ are in all cases moistened with a clammy fluid, which causes the grains of pollen to swell, burst, and discharge their minute granules. Some suppose that these are taken up by spongelets in the summit similar to those of the root, while others allege that the fluid matter in which the granules float is sucked up. It has been discovered that the grains of pollen, when shed on the summit, in a few hours shoot out one or more delicate tubes, which by some philosophers are supposed to extend down as far as the seed-organs, and to expand around and between the nascent seeds. Some *believe them to* convey thither the granules, which at once enter into the tubes; others, however, deny that this is the case. The seed-organ lies at the base of the pistil, and contains the seeds either nascent or s to maturity. It bears a very strong resemblan egg-organ of birds and insects, and its parts cordingly received from naturalists the same names. The seed-organ is usually of an eg form, and is always composed of an outer m a middle membrane, and an inner membrane, mately united. As every seed derives its nou from the inner membrane, there must be a c cating point; and this point being always on t of the membrane, may be so termed; that on being termed the seed-scar, but popularly, th properly, named the eye. In some species t bears a number of smaller verges, to each o seed is attached, by means of the verge-cord stalk. All these parts are obvious in an unri bean.

Seed-vessels are various in form; as, for ex the case of the pea, fig. 11, the vessel is a she and in the case of the apple, fig. 12, it is the b fruit.

Fig. 11.

All fruits, in reality, are but so many vessel

for the seeds, and the various forms in which they
r are individually suitable to the purposes of their
l.

uctural arrangements.—Vegetable, like animal
ıres, are composed of solid and fluid parts.
f the latter are considered simple in their com-
n, as they contain more or less of a gelatinous
, which frequently imparts to them a consistency
ching to that of a solid body. The gum which
n see exuding from trees, is an instance of the
ty of vegetable fluids. Many of them, also, con-
ıinute globules of matter, which thicken them to
iderable degree. It has next been discovered
ıese often cohere and form solid masses, or unite
s so as to constitute fibres. These, again, collect
er, and compose various kinds of texture. The
arts of a vegetable are membrane and fibre, which
the tissues referred to, and their varied com-
ons in the bark, wood, pith, and medullary or
w rays. The fluid elements are watery solutions
soluble materials of the soil, which, by chemical
echanical agency, as well as the influence of the
ple of life, are decomposed, and again united in
nt proportions, so as to form new substances, or,
er words, the solid components, the textures, and
ions of the vegetable.

elementary parts of the vegetable structure ap-
o consist of minute bags, bladders, or vesicles,
ats of which are transparent membranes of ex-
tenuity. If a very thin slice of the stem of any
be put into a drop of pure water, and examined
microscope, it will be found to consist chiefly of
cells. Their size differs very considerably, from
he thousandth part of an inch to the thirtieth.
ugh in their original state they possess an oval or
ar form, yet, by being variously compressed, they
ade to assume other forms, such as twelve-sided
s, or six-sided, like a honey-comb, and pass by
ible gradations into the tubular structure. These
ıs modifications of the same elementary texture
received separate technical names, which, how-
it is unnecessary to specify. By the concurring
vations of modern botanists, these cells consist of
ate vesicles closed on all sides, and destitute of
or pore. It seems to have been satisfactorily esta-
d, that the partitions which separate them, how-
hin, must consist of a double membrane, formed
adhesion of the coats of the two contiguous vessels,
at the fluids gain access not by means of regular
ures, for none can be detected, but by exuding
gh the substance of the membrane. As from the
of the cells the coats cannot be supposed to unite
ry point, the spaces thus formed have been called
ellular passages, canals, &c., and they are supposed
form an important part in the function of nutri-
The nature of the matter contained in the cells
he intercellular spaces, differs according to the
in which it exists, and the peculiar powers of the
. Sometimes they are filled with certain liquids,
roducts of vegetable secretion; at other times the
nts are simple watery sap, and occasionally they
nly filled with air. Air-tubes and cells are most
ently met with in the centre of stems and in leaves,
r in roots, and never in the woody part of plants.
ugh some plants consist entirely of cells, yet, as
ly observed, the greater number of them have, in
on to these, numerous ducts or vessels, consisting
embranous tubes of considerable length, inter-
d throughout every part of the system. With
d to the origin of these, Dr Roget observes:
re can be little doubt, indeed, that the vessels of
take their origin from vesicles, which become
ated by the progress of development in one parti-
direction; and it is easy to conceive, that, where
tremities of these elongated cells meet, the parti-
which separate their cavities may become obli-
d at the points of junction, so as to unite them
ne continuous tube with an uninterrupted interior
re. This view of the formation of the vessels of
plants is confirmed by the gradation that may be traced among these various kinds of structures. Elongated cells are often met with applied to each other endwise, as if preparatory to their coalescence into tubes. Sometimes the tapering ends of fusiform cells are joined laterally, so that the partitions which divide their cavities are oblique. At other times their ends are broader, and admit of their more direct application to each other in the same line, being separated only by membranes passing transversely; in which case they present, under the microscope, the appearance of a necklace of beads. When, by the destruction of these partitions, their cavities become continuous, the tubes they form exhibit a series of contractions at certain intervals, marking their origin from separate cells. In this state they have received the names of *moniliform, jointed*, or *beaded vessels*. Traces of the membranous partitions sometimes remain where their obliteration has been only partial, leaving transverse fibres. The conical terminations occasionally observable in the vessels of plants also indicate their cellular origin."

Those parts of plants which do not exhibit the form of either membranes or cells, are comprehended in what is called the *vascular system*, which constitutes almost the entire bulk of the more solid parts of trees. If a branch be cut transversely early in spring, the sap will be found to exude, and cover the whole of the cut surface, which, if examined, will be found to consist of a vast number of exceedingly small fibres, vessels, or pipes, through which the liquid portions of the vegetable ascend or descend. These are, as it were, the veins and arteries of the plant. Indeed, whilst the tissue of cells above described may be said to constitute the flesh of plants, the tissue of fibres may be said to stand for the bones and other firm parts of the system. In animals, the fluids are conveyed to and from a central reservoir called the heart; but such an organ does not exist in the vegetable kingdom. The fluids enter by innumerable mouths at the root, and are conveyed by the vascular system to all parts of the plant fitted to receive them. There is little variation in the diameter of the vessels, and their general form is cylindrical. Their minuteness is quite astonishing. In a piece of oak of about the size of 1-19th of an inch, 20,000 vessels have been reckoned to exist. Hedwig measured the largest vessel in the stem of a gourd; it appeared 1-12th of an inch in diameter through his instrument, which magnified 290 times; so that its real diameter was the 3480th part of an inch. The vessels of plants do not, like those of animals, exist single, but are collected in bundles, or fasciculi as they are called, which sometimes contain hundreds of vessels. They occasionally also ramify; that is, some vessels shoot off from one parcel to unite with another, and afterwards return to that which they had left. By this ramification a reticulated appearance is frequently produced, especially in the bark and leaves of plants. They do not ramify like the vessels of animals from greater into less; but, by the division of a greater fasciculus into several smaller fasciculi, they at last become single, and thus their ramification is effected. It is generally supposed that they do not open into one another; that is, actually unite and be lost in each other, forming that kind of connexion which anatomists call inosculation or anastomosing (from a Greek word which signifies to open the mouth).

These vessels have been named according to the functions which they perform, or the appearances which they assume. There appear to have been two kinds of vessels discovered in plants, the straight and the spiral. Grew describes the former as straight hollow threadlets, fifty times finer than a horse hair, forming a larger tube, as if we should suppose a walking-cane composed of small straws. Leuwenhoeck describes them as composed, like the quills of birds, of two transparent tissues, one placed lengthways and the other across, with no lateral communication. It is the opinion of the highest authorities that both fibres and straight vessels take their origin from spiral vessels. The first is called the simple spiral. If the fleshy scale of any bulb, for in-

stance, that of the lily, be cautiously broken, and the parts separated, the spiral vessels will be observed like screws, partially unrolled. They consist of opaque silvery shining fibres, twisted in a spiral manner, so as to form a hollow cylinder, the spires being generally in contact. This hollow tube is sometimes formed of one continuous fibre, sometimes of several parallel fibres adhering together. The fibres are tenacious, and in some plants elastic. They differ much in size in different plants, and at different stages of the growth of the same plant. They stretch through the whole of its length, from the roots to the leaves and flowers, following the various curvatures of the stem. Grew found that they alternate with the straight vessels in every part of the wood, and surround and ensheath them in the leaf-stalk, the leaf, the flower, and the fruit. The straight vessels are said to be formed in spring, the spiral vessels in summer. These spiral vessels undergo various transformations. In many cases the inner fibres of the tube, instead of forming a continuous spiral, appear in the shape of rings succeeding one another at regular intervals, and constituting what are called annular vessels (from *annus*, a ring). This is considered a primary form of vessel, and, from the two simple varieties of vessels described, more complex forms are elaborated as the plant advances in age. In the punctuated vessel the spires are separated to nearly equal distances from each other, and the intervening spaces are filled up with a membrane sprinkled over with small obscure points or dots.

This is the largest with respect to the diameter of the vegetable vessels; it is at first transparent, but becomes opaque by age. A fourth variety of vessel, which has the same origin as the last, being formed of rings, is that in which the separations are not filled with membrane, but with small productions proceeding from these rings themselves. These ramifications often have the appearance of network, whence they derive the name of *reticulated* spiral vessels. It is impossible, in the present limited treatise, to go into a definition of the varieties and purposes of these vessels; and it will suffice to say that the spiral vessels, in all their variety, serve the office of conveying the sap throughout the whole of the plant. Besides the vessels already enumerated, vegetables contain certain organs denominated *glands*, which are composed of closely-compacted cells, and which perform the function of *secretion*; that is, the conversion of the nutritious juices into particular products required for various purposes in the economy of the plant.

Among the parts associated with or arising from the elementary structure already mentioned, are the pith, the wood, the bark, and the epidermis or skin. The pith is that soft, light, and spongy sort of substance which occupies the centre of the stem (hence sometimes called the heart), where it is commonly surrounded by a circle of vessels, which construct for it an appropriate canal. When seen in its most perfect form, it is found to consist entirely of cellular tissue, rather loose in texture, as in the alder, or compact, as at the knot of the ash. The wood (*lignum*) is that hard cylinder which immediately surrounds and envelopes the pith, and is enclosed by the bark. It is essentially composed of vessels, and of cellular tissue combined in an infinite variety of ways, and exhibiting every diversity of form. If a tree of several years' standing be cut transversely and examined, it will be found to consist of a number of cylinders, enclosing one another like so many layers or concentric circles disposed around an axis. By the number of these the age of the tree may be determined.

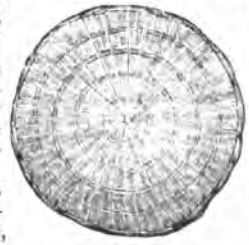


Fig. 13.

Fig. 13. is a section of a *stem five years old, having the pith in* the centre, *and a cylindrical layer* for every year of the growth, and the bark o side. The outermost layer, which is spong durable than the inner or heartwood, is called The whole are traversed by rays or lines from the centre of the stem to its circumfere are called medullary rays, or silver grain, an composed chiefly of large cells, extending tra or in the direction of the diameter of the composing by their union continuous verti the whole length of the trunk. They are c dullary (from *medulla*, marrow), because t supposed to be processes of the pith, or a co of it, which is not the case. Their use appe to keep open the communication between the the pith, which the formation of the wood wo wise have destroyed. The bark resembles w component parts, being made up like it of va cellular tissue, intimately connected with va As in trees a new layer of vessels is annually the wood, so a similar but much thinner lay made to the bark, to which the name of *liber*, bark, is usually applied, the old layer being pu wards. Between the vessels thus annually a considerable portion of cellular tissue is in the cells being commonly filled with juices. T is surrounded by an outer zone or envelope, the name of skin, epidermis, cuticle, or rind, given. It is an extremely thin membrane, an over the surface of every part of the plant, the spongelets of the roots, and the summit of in flowers. The rind of plants is similar to t animals in the functions in which it performs doubt, intended to protect the more sensib beneath. As the scarf-skin of the hand be durated by hard labour, so the rind of th exposed to a stormy climate, becomes rough, rind of the same species of plant, if reared in a situation, like the hands of a delicate lady smooth. As the plants grow, the rind stret sometimes to a considerable extent; but it which it is not easily stretched, as in the elm, up into innumerable cracks. The birch, and a trees, "cast their bright skin yearly, like th The rind is transparent and colourless where thin; but it is usually of a brown or grey co thick. Various opinions are entertained resp origin and structure of this membrane. Som phers hold it to be continuous with the formed of the outer sides of its cells. Other it as a separate membrane, composed of m or "bladders," as Grew calls them, which are dried up as the plant grows older. Th is now supported by the highest authorities. in some instances been found a very delic parent, and apparently inorganised, membr outside of the rind. Whether it possessed as they are sometimes termed, glands, w disputed point, but their existence has b incontestibly proved. They are a sort bags opening on the outside by an oval raised border, which contract when water is applied, and expand in dry air, or when sunlight.

Having already defined what constitutes cal elements of plants, as well as the nature which they derive from the atmosphere a thing more need here be said on the subj pass on to a short account of the methods b ascent and descent of the sap are effected.

The various matters held in solution b enter the plant in a perfectly crude state. rises in the stem of the plant, undergoing perceptible change in its progress, and is conducted to the leaves, where it experie important modifications. By causing the bibe coloured liquids, the general course of been traced with tolerable accuracy, and it traverse principally the ligneous substance in trees, its passage is principally through

alled the ascending sap; and after it leaves them, in rder to be distributed throughout the plant, it has been alled the returning sap. It still contains a considerable uantity of water, but a large proportion of that which as not been exhaled by the leaves, and its elements, xygen and hydrogen, has combined with certain other ubstances, so as to form proximate vegetable products, f which gum is the simplest, and generally the most undant. The returning sap descends from the leaves hrough two different structures. In exogenous plants, he greater portion finds a ready passage through the ber, or innermost layer of bark, and another portion escends through the alburnum, or outermost layer of he wood. With regard to the exact channels through hich it passes, the same degree of uncertainty prevails s with regard to those which transmit the ascending ap. De Candolle maintains, that in either case the uids find their way through the intercellular spaces; ther physiologists, however, are of opinion that partiular vessels are appropriated to the office of transmitng the descending sap. The nature of the forces which ctuate the sap in its descent from the leaves, and its istribution to different parts, as well as those powers hich contribute to its motion from the roots to the aves, are involved in equal obscurity. The hypothesis hat it resulted from capillary attraction, is now geneally abandoned.

SECRETION AND EXCRETION IN VEGETABLES.

The modifications which the returning sap undergoes, nd its conversion into gummy, saccharine, amylaceous, r ligneous products, are effected by the simpler kinds f cells. But there are other cellular organs in which reater changes take place in its nature, the agents for ffecting which are unknown, and are therefore referred enerally to the vital energies of vegetation. The proess is termed secretion, and the organs by which it is onducted, glands. The matter secreted is sometimes etained in the cells, and sometimes appears on the outide as an excretion, for the plant has the power of hrowing out by the root those superfluous or noxious natters which, if retained, would injure it. This exlains the fact why plants render the soil where they ave long been cultivated less suitable to their continuance in a vigorous condition than it originally was; nd also why plants of a different species are freuently found to flourish very well in the same situaion, where this apparent deterioration of the soil has aken place.

The vessels in which the fluid secretions are contained are of a peculiar kind, and exhibit ramifications nd junctions resembling those of the blood-vessels of nimals. We may also discover, by the aid of the icroscope, that the fluids contained in these vessels re moving in currents with considerable rapidity, as ppears from the visible motions of their globules; and hey present, therefore, a remarkable analogy with the irculation of the blood in some of the inferior tribes f animals. This curious phenomenon was first oberved by Schultz in the chilidonium, in the year 1820; nd he designated it by the term *cyclosis*, in order to istinguish it from a real circulation, if, on further nquiry, it should be found entitled to the latter appelation.

The circular movements which have been thus bserved in the milky juices of plants, have lately ttracted much attention among botanists; but considerable doubt still prevails whether these appearances fford sufficient evidence of the existence of a general irculation of nutrient juices in the vegetable systems f those plants which exhibit them; for it would appear hat in reality the observed motions of the fluid are in very case partial, and the extent of the circuit very imited. The cause of these motions is not yet known; ut probably they are ultimately referable to a vital ontraction of the vessels, for they cease the moment hat the plant has received an injury, and are more ctive in proportion as the temperature of the atmosphere is higher.

BOTANY.

Various eminent individuals have attempted the classification and naming of plants, each of whose arrangements is called a *system*, and possesses certain peculiar features. The three systems which have been most esteemed, and wholly or partly adopted, are those of Tournefort (1656—1708), Linnæus (1707—1778), and Jussieu (1699—1777).

THE SYSTEM OF TOURNEFORT.

Tournefort founded his system on the absence or presence, the figure, situation, and proportion, of the *corolla*. This part of the flower is always, when present, the most conspicuous and imposing, and attracted the notice of the earlier botanists, as it does that of children now, more than it really deserved; because, in fact, no part of the flower is more subject to incidental change than the corolla. He divided the vegetable kingdom into two principal parts, namely, herbs and trees; the primary divisions he subdivided into twenty-two classes, the first seventeen of which comprise the herbs, and the other five the ligneous vegetables; these are again separated into one hundred and nineteen sections, but without names or titles being applied to them, as in those of other botanists. The characters of these sections were not always sufficiently defined; and consequently the young botanist often met difficulties in arranging plants in their proper places.

Though now known to be imperfect, the system of Tournefort possesses great merit. His labours, considering the state of the science when he lived, were indeed great, and far surpassing those of either Linnæus or Jussieu. In fact, Tournefort was pioneer to both, and amassed, and in many cases assorted to their hands, the materials of which both their systems are formed.

THE LINNÆAN, OR SEXUAL SYSTEM.

The sexuality of plants had been discovered long before the time of Linnæus; but, as far as is now known, he was the first who suggested the idea of classifying plants according to the numbers, connexion, and stations of the male and female organs. From the moment the idea occurred to him, he was indefatigable in the completion of a system which, no doubt, he fondly flattered himself was founded in nature. His great acquirements as a scholar, his love of natural history, his station among learned men, and his connexion with many learned societies, eminently fitted him for achieving this great and laborious work.

The plan of the Linnæan system of botany was intended to comprehend the whole vegetable kingdom, which was arranged in two grand divisions, namely, plants having visible flowers (*Phænogamia*), and plants having no visible flowers (*Agamia* or *Cryptogamia*). The whole are included in twenty-four classes; and these classes are subdivided into orders, genera, and species. The terms used to express the classes are compounded of the Greek numerals and the word *andria*, signifying man. These classes are subdivided into orders, which are designated from their number of pistils by Greek numerals also, with the addition of the word *gynia*, which signifies woman. The following is a summary of the distinguishing traits of the respective classes:—

1. Monandria, with one stamen—Marestail.
2. Diandria, with two stamens—Speedwell.
3. Triandria, with three stamens—Grasses.
4. Tetrandria, with four stamens—Bed-straw.
5. Pentandria, with five stamens—Primrose.
6. Hexandria, with six stamens—Snowdrop.
7. Heptandria, with seven stamens—Water plantain.
8. Octandria, with eight stamens—Heath.
9. Enneandria, with nine stamens—Flowering-rush.
10. Decandria, with ten stamens—Pink.
11. *Dodecandria*, with eleven to nineteen stamens—*Agrimony*.
12. *Icosandria*, twenty or more, inserted into the calyx—*Rose*.
13. Polyandria, twenty or more, inserted in
ceptacle—Poppy.
14. Didynamia, two long and two short—Fo
15. Tetradynamia, four long and two short—W
16. Monadelphia, filaments combined in one
nium.
17. Diadelphia, filaments united into two sets
18. Polyadelphia, filaments united into more
sets—St John's Wort.
19. Syngenesia, anthers united into a tube
compound—Thistle.
20. Gynandria, stamens situated upon the sty
the germen—Orchis.
21. Monœcia, stamens and pistils in differen
on the same plant—Spurge.
22. Diœcia, stamens and pistils in separate flo
on different plants—Willow.
23. Polygamia, stamens and pistils united or
on the same or on different plants, an
two different kinds of perianth—Orache.
24. Cryptogamia, stamens and pistils not visibl

A more minute analysis of the system is as f

Flowers with stamens of a fixed number, and length.

First Class, or Monandria, having one sta
they have one pistil, they are of the first
Monogynia; if two pistils, they are of the seco
or Digynia.

Second Class, or Diandria, having two sta
they have one pistil, they are of the first
Monogynia; if they have two pistils, they a
second order, or Digynia; and if three, they
third order, or Trigynia.

Third Class, or Triandria, having flowers
three stamens.—If they have one pistil, they
first order; if two, they are of the second or
three, of the third order.

Fourth Class, or Tetrandria, having flow
only four stamens equal in length.—If they
pistil, they are of the first order; if two, of th
three, of the third; and if four, of the fourth
Tetragynia.

Fifth Class, or Pentandria, having flow
only five stamens.—Those having from on
pistils are named as in the preceding class
having five pistils belong to the fifth order,
gynia; and if they have many pistils, to the six
or Polygynia.

Sixth Class, or Hexandria, having flowers
stamens.—As they have one, two, or three pi
belong to the first, second, or third orders; if
six pistils, to the fourth order; and if many
the fifth order.

Seventh Class, or Heptandria, those ha
seven stamens.—If they have one or two pi
are classed as before; if four pistils, they bel
third order; and if seven pistils, to the fourth

Eighth Class, or Octandria, having flowers
eight stamens.—If they have from one to fo
they rank in the order corresponding to the

Ninth Class, or Enneandria, those having
stamens.—If they have one pistil, they belong
order; if three, to the second; and if six, to

Tenth Class, or Decandria, having only te
—If they have one, two, or three pistils, they
the first, second, or third orders; if five, to t
and if ten, to the fifth order.

Flowers with stamens of rather uncertain nu of fixed insertion.

Eleventh Class, or Dodecandria, having fl
from eleven to nineteen stamens inserted in
ceptacle.—If they have from one to five pi
belong to the orders corresponding to these
and if they have about twelve pistils, they bel
sixth order.

Twelfth Class, or Icosandria, having flo
twenty or more stamens inserted into the ca

Flowers of only one sex.

RT-FIRST CLASS, or Monœcia, having flowers, th pistils only, and some with stamens only, on plant. There are nine orders, taken from the and bundling of the stamens, as before.

RT-SECOND CLASS, or Dioecia, having flowers ils only, or with stamens only, on two separate f the same species. There are nine orders, as in the preceding class.

RT-THIRD CLASS, or Polygamia, having flowers h stamens and pistils, and also with only one of th on the same and on separate plants of the cies. There are three orders.

No flowers apparent on the plants.

RT-FOURTH CLASS, or Cryptogamia. Stamens and f present, cannot, from being very minute, be ed. The class contains five orders—Ferns, Mosses, *Musci*; Liverworts, *Hepaticæ*; Sea- *lgæ*; and Mushrooms, *Fungi*.

ne Linnæus added another class, or rather ap- which he called *Palmæ*, the flowers of which sufficiently known in his time to admit of their perly placed in the system. They are now ed into the various classes and orders of the ystem; they are still kept separate by Jussieu, as Linnæus did, arranged them into an order elves, under the old name. In fact, the genus is of all others the least associable with the plan of arrangement; being as distinct a plants in their structure, forms, and manner of as can be found in the whole vegetable king- till there were stations provided for them in al scheme, where they have been placed by ters; but, as already observed, they do not well with the genera among which they are For instance, who would imagine that the palm (*areca oleracea*) and the Scotch pine *ylvestris*) were any way allied to each other? Linnæan botanist must unite them, because wers are respectively monœcious, and their are united in one brotherhood.

THE JUSSIEUIAN, OR NATURAL SYSTEM.

uthor of this new system of botany has taken omprehensive view of the vegetable kingdom, been fortunate in fixing on those greater cha- ics of plants which distinguish them from each d which at the same time are the least vari- n examining closely the vegetable membrane, d it was either uniformly simple, that is, con- f tissues of cells of nearly equal size and con- or of tissues of which the cells were of various rmixed with each other, and formed into fibres straight or in spiral positions, and forming d openings of different structure and consist-

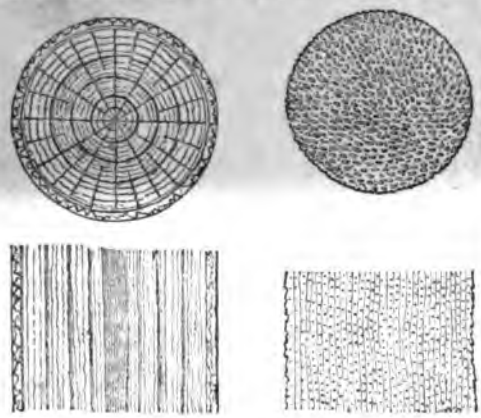
tion of Dicotyledonous and Monocotyledonous Plants.

his evident difference of structure served to e vegetable kingdom into two parts; the first d *Cellulares* or *Acotyledoneæ*, that is, plants wholly of cellular membrane, and rising from ds, or sporules, destitute of cotyledons or seed- Among these Acotyledoneæ are embraced the ades of the vegetable creation—the Filices, i, the Hepaticæ, the Algæ, the Fungi—being s it were, at the bottom of the scale, and ex- in their outward aspect as well as in their structure, nothing of that loveliness of form,

and but rarely that brilliancy of colouring, by which some of the other divisions of plants are distinguished. They are the first and rudest types of vegetable life, many of them consisting merely of a cluster of minute cells, or of minute threads, as in the case of *proto-coccus* and *byssus;* and many of them being, in fact, nothing more than a mere slime or mucus, as in the *moulds* and *nostocs*. Yet these minute and apparently insignificant tribes of vegetables, as already stated, are by no means useless or superfluous in the scale of nature.

The plants composed of the second description of membrane, Jussieu named *Vasculares* or *Cotyledoneæ*, because the organisation was more complicated, consisting of cells of various size, lying in various positions, in denser or looser laminæ or partitions, and being invariably fibrous; and, moreover, rising from their seeds furnished with cotyledons or seed-leaves. Of these, some presented one seed-leaf only, but the great majority presented two; hence the latter were called *Dicotyledoneæ*, and the former *Monocotyledoneæ*. This difference in the development of the seedlings of *Vasculares*, served as a basis for the two classes into which it is divided and named, as above stated.

But besides the difference in the germination of vascular plants, they also differ materially in the manner of their growth. The first class, *Dicotyledoneæ*, is annually increased in bulk by additions of bark and wood on the outside, hence it is also called *Exogenes;* whereas the second class, *Monocotyledoneæ*, is enlarged by the expansion of the interior parts of the stem, and therefore is also called *Endogenes*. These are very striking cha-



Sections of Dicotyledonous and Monocotyledonous Stems.

racteristics of the two classes, as regards their manner of growth; but there is another very obvious distinction, not only in the structure of their stems, but in their leaves. In a leaf of the first class, the petiole, or footstalk, is extended directly through the web or face, and is branched pretty regularly from the mid-rib (*costa*) to the margin; whereas in a leaf of the second class, there is no very conspicuous costa or mid-rib, the petiole being pretty equally divided at the base of the

Dicotyledonous Leaf of the common Apple-tree.

leaf into several branches, which run in nearly parallel lines to the point.

By these obvious distinctions in the man germination of the seeds, the modes of acc in the structure of the stems and foliage, the of *Cotyledoneæ*, or vascular plants, are clear But as there are great differences with res stations, connexions, and numbers of the flora of the plants included in this first division, of the system found it expedient, in order t the study of the science, to separate it, as alre into two classes; namely, *Dicotyledoneæ* and *ledoneæ;* the former being again separated subdivisions, namely, *Dichlamydeæ*, that is, pla flowers have two coats or coverings, the cal rolla being distinct; and *Monochlamydeæ*, that whose flowers have one coat or covering, the corolla not being distinct, but blended in one, plified in those of the mezereon.

Monocotyledonous Leaf of the Gloriosa Superb

In so limited a treatise it would be impos were it desirable, to mention all the features racteristics of the Jussieuian system, as comp in its ramified divisions, subdivisions, orders and species; and, indeed, to acquire any t useful knowledge on the subject, it must be practically in the garden and fields, under the tions of a master. It is generally allowed minute complexity of the subdivisions and most perplexing to the pupil, and a simplifi this respect, as well as in the harshness of the clature, would be very desirable. It is wel that there are many genera which stand on fines of two orders, with neither of which they agree. In such cases, uniting the neutral wi other of the more decidedly marked order surely be better than constituting a new order for the purpose of more completely or scie identifying one unsociable plant. It appears sieu himself was strongly impressed with the limiting the number of his orders, as well as the nevertheless, almost all the improvements wh been recently made in the system by his follo divisions of orders, and subdivisions of gen expanding rather than simplifying the system.

It cannot be denied, however, that there persons engaged in the cultivation of plants wi rejoice at seeing a new scheme of scientific which the orders of the natural system woul duced, and the number of genera diminished. thing is not so impracticable as may be ima master mind to contrive, and a few talented botanists to sanction the scheme, and fix the clature, would be a work well worth the atte labours of some universal botanical society for this special purpose.

Botany, as well as every other science, has la greatly advanced by that friendly and highly a able intercourse and interchange of social and communion between home and foreign pu and no doubt, whatever may be its defects, among its professors will speedily supply a re

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LOGY.

order to discover if any traces exist of human
s. To ascertain that if such beings did there
would not be necessary that they should actu-
en by us. In our wanderings we might come
ut bearing all the marks of occupation; we
the roots of the trees which had been felled
, and other tokens of the recent presence of
the spot; and did we desire to discover some-
heir character and habits before we presented
to their notice, it is most probable that suffi-
would be also afforded on which to found an
Were the habitations we discovered merely
ar such enclosures destitute of the conve-
f civilised life, or were the furniture, the
or the instruments in and around them, such
ons nations generally use, we might reason-
that we had found the dwelling of an untamed
But if, instead of this, we find the surrounding
hed, enclosed, and cultivated: should we find
ion articles of European husbandry and the
tensils of an European household, we should
draw the inference that we had reached the
n emigrant, who had thus reared around him
ates of civilised life. Much more, a few addi-
ervations might reveal to us and enable us to
ctures, bearing the aspect of probability, con-
e people among whom we had fallen. Now,
s way alone that we can argue respecting the
all things, and discover proofs and demon-
f a first supreme cause. To prove that the
of all things was the result of design, it is
sary to show that they are in general, or in
ve can discover, admirably suited to the uses
oses to which they are to be applied—that
ngement is perfectly harmonious, and that it
be that any chance could have thrown them
n a way so happy. To discover if this design
idenced or demonstrated, it is necessary to
gh the various works of creation with which
rounded; and the more minute we make our
, the more likely shall we be to perceive the
If there be some departments to which our
e a readier access than to others, and which
herefore more readily examine, from these
we ought to deduce our result. It may be
all find many things, which, from the defi-
our observing faculties, we cannot understand,
er the uses or consequent design which they
ut still, if, in the course of our inspection,
y of bodies which we can observe minutely,
very part admirably adapted for a specific
and teeming with the most convincing evi-
design, then we may with safety and true
infer that in those objects, which from their
l our imperfection we cannot so completely
, a greater degree of light would tend to con-
result to which our previous observations
her things, had led us.

ney round him; that the planets are globes similar to our own, revolving at once upon their own axis, and round the sun; that the moon is a satellite or attendant upon the earth, accompanying it in its course, and at the same time describing every month a circular orbit round it; and that to several of the planets are attached similar moons or satellites, bearing to them a corresponding relation.

By turning to our article ASTRONOMY, in which the number of the planets, and their distances from the sun, with other particulars, are noted, it will be seen that the earth which we inhabit is but a very small point, even in the solar system (as the concourse of planets round the sun has been called), and that it forms but a part of one magnificent and resplendant whole. But to ascertain the marks of a designing mind in this mighty maze of brilliant wonders, let us turn our attention to some of those particulars regarding them with which we are acquainted; and it must be confessed, that, if we are to suppose them mere masses of matter unclothed with aught bearing analogy to our vegetable productions, and uninhabited by beings either sentient or rational, it will be difficult to see why any of the arrangements connected with these bodies, so far at least as they themselves are concerned, and apart from their attractive influence upon our own world, should be either beneficial or the contrary. It is solely on the *conjecture* that there are organised beings on their surface to be warmed, and nourished, and upheld, that we can argue regarding such arrangements; and making this conjecture, we shall find that there are some very remarkable apparent contrivances for ministering to their comfort and happiness. It has been supposed that a planet so far distant as Herschel, or even Jupiter or Saturn, must suffer from an extreme deficiency both of light and heat; and hence it has been argued that they are necessarily unfit for the sustenance either of animal or of vegetable life. But when we consider that even Herschel, the most distant from the sun, possesses 248 times the light afforded by our full moon, it will not be difficult to believe, that, with a somewhat more acute power of vision than we possess, the inhabitants of that planet, if formed like ourselves, may be quite able to

and a very little reflection will sh
have in this respect. What a
spectacle must these rings present
Saturn! During its more than fo
mer, the night must be enlivened
tion of this brilliant arch extendin
from the eastern to the western
during the day, the sun must be n
in shedding light upon the world
"There is no planet in the solar
writer, "whose firmament will pr
of splendid and magnificent objec
The various aspects of his seven mo
the horizon while another is settin
ing the meridian; one entering
another emerging from it; one app
and another with a gibbous phase
whole of them shining together in
the majestic motions of the rings, a
ing the sky with their splendour, an
at another, casting a deep shade
of the planet, and unveiling to vie
starry firmament—are scenes wor
the Divine Being to unfold, and t
to contemplate." Of the other pla
individually to speak; our knowl
tremely limited, and we may sim
most of them, the same causes exi
produce the various seasons. T
seasons, further than that they a
influences of the celestial bodies, w
To the arrangement of these, an
and all-pervading knowledge and
designed them, are we, in a wo
opening beauties of spring—the f
arrayed in flowers and clothed with
and sear leaves of autumn, with i
happy harvests—and the cold but
which even in its frigidity serves a
the scheme of the natural world.

In these arrangements we see p
power, and the beneficence of that
the cause of all things. To what

GY.

ets to one another been greater—had one or
rm moved in a direction opposite to the rest
one of these causes operated, the whole solar
ust sooner or later have been precipitated into
nfusion. Will any man, then, deny the proof
ded of design and skill?

per, before leaving the heavenly bodies, to
the fixed stars. If little be known respecting
s, still less has been ascertained regarding
e distant bodies; but it is by no means an
employment to contemplate, through them,
sity of creation, and, thus elevated, to draw
sion that the Being by whom they originated
ld be infinitely glorious. Had there been no
gn on His part than thus to strike the mind
th a sense of His magnificence and grandeur,
ethod could have been adopted to impart the
he mind is bewildered when it dwells upon
s which astronomy developes; and it cannot
lofty enough to express its sense of the in-
it discovers, or the proofs of the power and
d goodness it perceives.

IONS BETWEEN MAN AND EXTERNAL NATURE.

the evidences of design that are to be de-
m the contemplation of the heavens, let us
ne of the relations that exist between man
al nature, and consider the wonderful adap-
each other which they exhibit. There can
k in nature, and, consequently, no body is
all more or less influence each other, and it
of these relative influences that we are about
Man is attached by the laws of gravitation
th which he inhabits, and is surrounded by an
ic medium capable of exercising certain in-
pon him; these influences are modified by the
Power to be subservient to his wants, and
o be adapted not only to his necessities, but
every living thing, whether plant or animal,
s. The air which surrounds us exercises, in
ue of its extent, a pressure on the human
l to about 33,000 pounds. But why do we
and miserably perish beneath this immense
It is by the re-action of the elastic fluids con-
hin our bodies that we are enabled to support
us a pressure. Here we find a mutual rela-
ben us and the air, which cannot be inter-
thout mutual injury. Suppose this weight to
awn from our bodies, what would be the re-
e expansibility of the fluids contained within
have no restraint; they would dilate, burst
ie solids which contain them, and destroy the
. Place any animal beneath the receiver of
mp, and withdraw the air, the result is very
One of the causes of the inconveniences that
lenced when on the summit of a very high
is, that the air is less dense, and does not op-
uch pressure to the body; and this it is which
the violent bleedings from the ears, eyes, and
at sometimes attack those so situated. The
cupping-glass, when applied to the skin, has
cause. We feel more or less the effects of
n change of atmospheric pressure, but still
y of the air is well adapted to the wants of
l it been greater, our energies would have
essed as by an unnatural load; and if less,
tly sustained as by a defective support. The
hearing and smelling, too, which depend for
ection on a medium density of the air, would
e either insupportably intense or defective.
ie atmospheric pressure materially affects
ire. If a certain quantity of air contains a
uantity of heat, it is clear that it must be
ffused throughout it; and if the same air be
in less bulk, or if the pressure be greater, the
ncreased in the same ratio. In the same
f the pressure be lessened, the air expands,
it the heat is diffused over a greater surface.
ressing air, we can produce a sufficient com-

degree. All organic bodies are capable of resisting to a great extent, and of modifying the action of, heat and cold; indeed, this principle of self-preservation is in them so striking as to have been regarded from a very early period as the most essential attribute of life. The power possessed by the higher classes of animals, of preserving a more or less uniform degree of heat, is almost unlimited. In very cold climates the thermometer not unfrequently sinks to 50° or 55° below the freezing point, while in very hot ones it is sometimes 120° or 125° above it, making a difference of 170° or 180°; still, however, the temperature of the body remains unchanged. What unanswerable evidence of design is this, and how limitless must be that Power who could create such wonderful adaptations!

If the atmospheric pressure produces in some measure the regulation of heat and cold, in no less degree does it affect moisture and its concomitants—clouds, mist, rain, snow, and hail; and thus we are dependent for many of our comforts, and for most of our necessities, upon the due adjustment of atmospheric influences. Winds, too, arise from any unwonted atmospheric pressure disturbing the equilibrium of the atmosphere, and are the efforts of nature to restore the balance. All the changes of weather, the most violent storms and tempests, own the same cause.

Connected with this subject, as evidencing design, is the composition of the air, which is precisely that best adapted to support respiration. It consists, besides small proportions of aqueous vapour and carbon, of two fluids, or gases, called oxygen and nitrogen. In a separate state these gases are inimical to life. Lavoisier proved by experiment that pure air, or oxygen gas, if respired for a certain time, rarifies the blood too much, and increases the rapidity of the circulation, the effects of which are violent fever, inflammation of the lungs, and death. Nitrogen is equally destructive to life, as not yielding that principle on which the purification of the blood depends. It is their combination that renders them salutary to the constitution, neither consuming life by too much stimulus and excitement, nor deadening its energies by a languid circulation and depression

The blue sky which now surround
owing to the thin watery vapours fl
sphere, and reflecting peculiar rays
the violet, would not have been the
we find such evidences of design
which the sky exhibits! Of all hue
is there any to surpass that mild an
harmonising with all around us, an
fatigued with more brilliant and da
for relief and repose! The unbel
this colour was the result of chance
other, a bright yellow, a dazzling w
a fearful colour, how uncomfortabl
it have been for the vision of man!
sphere is necessary to hearing; it
vision, and contributes also to the
not only do the beings on earth en
means, but it contributes to the sus
tribes, enabling them not only to
the water, or ascend and descend i

There are still other relations ex
and external nature, to which we
as illustrative of design; and they
out them certain important functio
formed, and, consequently, man co
relations, which may be termed or
numerous and necessary to life, as
the individual is the more develope
while they may be all included in t
nutrition and sensation, they are t
as the operations of the former are
the extension of the latter greater;
more numerous in man than in any
in the physical relations, to some
already alluded, so in the organic
first rank to the atmosphere, so m
so admirably adapted to sustain it.
also, through which we receive hea
city, of which we appear to be as
that principle of air which purifies
it for the performance of its several
matters are inherent in all living bo

ınd skill which its construction exhibits. At e time, it must be obvious that this construction 'ye would not answer its purposes, unless the tion of light corresponded to it. Light is an of the most peculiar kind and properties, and element can hardly be conceived to have been n the universe without some regard to its ope- and functions. As the eye is made for light, must have been made, at least among other r the eye. What we have said of light is equally)le to heat. It is obvious that the vital energy :s is much diminished, even suspended, during while with the return of summer they again 'rth their leaves and flowers; the same alterna- ains also among hybernating animals. Heat is ly the cause of these changes; so much so, in- ıat vegetables may be forced to invert the order easons. The climates in fact demonstrate the e of heat. How stunted is both animal and le life in polar regions, and how exuberant do ne individuals become under warmer skies! ity undoubtedly exists in the atmosphere in all es; but we know very imperfectly the laws of nt, and are still more ignorant of its atmospheric on. The present state of science, while it per- to hazard an opinion, does not enable us to e those adaptations of its laws to its uses, which discover in those cases where the laws and the e both of them more apparent. "It is at any rate obable," says Whewell, "that electricity has its ınt purposes in the economy of the atmosphere. is being so, we may see a use in the thunderstorm stroke of the lightning. These violent events th regard to the electricity of the atmosphere, rinds are with regard to heat and moisture. estore the equilibrium where it has been dis- and carry the fluid from places where it is nous, to others where it is deficient. We are tituted, however, that these crises impress every h a feeling of awe. The deep lowering of the f the thunder-cloud, the overwhelming burst of)losion, the flash from which the steadiest eye , and the irresistible arrow of the lightning which hly substance can withstand, speak of something even independently of the personal danger which ay whisper. They convey, far more than any)pearance does, the idea of a superior and mighty manifesting displeasure and threatening punish-

Yet we find that this is not the language which eak to the physical inquirer; he sees these for- symptoms only as the means or the consequences . What office the thunderbolt and the whirlwind ve in the *moral* world, we cannot here discuss; tainly *he* must speculate as far beyond the limits)sophy as of piety, who pretends to have learnt ese work more of evil than of good. In the world, these apparently destructive agents are, other movements and appearances of the atmo- parts of a great scheme, of which every disco- purpose is marked with beneficence as well as

think we have now sufficiently shown the won- ıdaptations and relations that exist between some phenomena of external nature and organised ces. It does not accord with our purpose to eeply or at greater length into the subject, but ıe little we have said, must, we hope, carry with)nviction, that verily it is a God who made and)e universe.

DESIGN IN THE STRUCTURE OF THE EARTH.

evident, even on a very casual inspection, that face or crust of the globe we inhabit has under- ıany changes, and these both great in extent and duration. Two agents, fire and water, have nainly instrumental in their production. The the great source of aqueous influence, seems, ime immemorial, to have been engaged in a e to degrade or level the surface of the earth, not only by the direct action of its tides and currents upon coasts, but also by means of the clouds of vapour which it sends up into the atmosphere, and which re-descend on the earth in the shape of rain and snow, giving rise to numberless springs and rivers, all of which have some effect, less or more, in washing down the dry land. This system of detrition, carried on from age to age, would have produced a state of things very different from that which now exists, had it not been for the antagonising agency of fire, which, working from the centre outwards, either by extensive convulsions or by slow upheavements, has elevated and repaired the earth's surface as fast as the waters have abraded it, and has compelled the ocean to give back to the light, in the form of continents and islands, the materials which it had before swallowed up.

In this reciprocal action and counteraction, and in their effects upon the earth's surface, we find abundant proofs of benevolent design. By these means have been produced those extensive irregularities—that diversity of hill and vale, ridge and plain—on which depends the fitness of the earth for the maintenance of all organic life, whether animal or vegetable. If the surface were level and smooth, the vapours raised from the sea by the sun would find no channel for their return, and the globe would necessarily become a stagnant marsh, unsuited for the residence of man and the greater part of the creatures that now tenant it along with him. But even if man could have inhabited the earth without its existing irregularities, how few comparatively would have been the advantages of his position! Had the matters carried down and deposited in the early seas, in the form of chalk-beds, limestone-beds, and coal-beds, with all the treasures of minerals and metals accompanying them, remained where they were first accumulated, man would have lost all the most essential elements of industry and civilisation. The changes and disruptions which have taken place in the crust, have brought to light a fund of riches, without which he would have been poor in comforts and in arts. Looking to those vast coal-fields alone, which the crust of our globe contains, can we imagine for a moment that the great changes by which these ruined forests of the primeval world were first spread out and moulded into new forms, and then upheaved to the reach of man, to supply him with endless stores of heat, light, and wealth, were produced by blind chance, or by aught but a creative designer, a being equally great and good!

On examining further into the condition of the earth's crust, as established by the changes it has undergone, we find numerous other proofs of the wise foresight which has ordered and arranged the whole. We discover that all the successive mutations of our planet, extensive as they have evidently been, were rendered compatible with the existence and enjoyment of countless numbers of organised and sentient beings. All the rocky strata of the crust, with the exception of those which appear to be the oldest and deepest-seated, are mixed up abundantly with organic remains, both animal and vegetable, and indeed some of the great limestone-beds are found to be entirely composed of the shells of insects. In short, whatever was the state of the surface at any given period of the revolutions fitting it for the ultimate residence of man, we find organised beings to have sprung up upon it, with such habits and peculiarities of structure as enabled them to exist and enjoy existence under the peculiar circumstances in which they were placed. Nothing can more distinctly show that our planetary revolutions had a noble scope and purpose, and were under the guidance of laws framed by a being as benevolent as wise.

DESIGN IN ANIMAL PHYSIOLOGY.

The earth, whose structure we have just briefly noticed, serves as the place of habitation for two kinds of existences—the animal and vegetable—in whose formation and functions we discover the beautiful dispensations of Providence, extending on every side over a vast range of beings, and demonstrating the unity of

plan on which organised creation has been devised. And, first, the whole circle of our knowledge does not afford greater evidence of design than comparative anatomy: in it we find innumerable contrivances for the comfort and happiness of the different tribes of beings adapted to the peculiarities of their condition; in each animal we see the same organ repeated, but modified to render it more available to the habits of its possessor; and among all the wonders of creation, there are none which strike the inquiring mind more forcibly than this change or modification of formation for the obvious purpose of accommodation to circumstances. Were all animals formed alike, or did the differences which exist between them bear no relation to their habits or destinies, it would be less easy to refute the doctrine which assigns all things to material causes, and excludes the designing hand of an intelligent Creator. Although even then the argument would be totally untenable, still the demonstration which disproves it would have been less satisfactory and perfect, as the surprising skill and beneficent care by which the structure of every animal is adapted to its individual habits and necessities, could not have been so well displayed. A single tool in the hands of the carpenter is a proof of contrivance, but that proof is much multiplied and rendered more forcible when we find the same instrument modified into a thousand forms to suit the different operations of the workman. Few of the functions of animated beings better illustrate this than that of alimentation, which we shall now briefly trace, through the humble zoophytes and worms up to birds and mammiferous animals. Nutrition is common to all animals without exception; and the numerous and varied modifications of the means employed to effect it, are obvious proofs of the design and intelligence of the Creator. There are some animals so nearly allied to plants as to be scarcely distinguishable from them; and in these, as in plants, nutritive matter is introduced by mere imbibition. Fixed like plants to the spot where they grow, any other organs would have been superfluous; while to those which are not so attached, but seek their food and obtain it through their locomotive powers, organs for seizing and preparing it are necessary. In them, therefore, we find lips variously and curiously modified; glands about the mouth for furnishing fluids for lubricating dry alimentary matters; a tongue, or something analogous to it; teeth and jaws for breaking down hard substances, and rendering them fit for swallowing; with a passage called the œsophagus, or gullet, leading from the mouth to the stomach, in which the food is at last assimilated, and rendered fit for nourishing the animal. But it is not until we advance some way in the great chain of animal life that these parts become sufficiently obvious, or their offices clearly defined. In the very lowest orders, the mouth and stomach are one continuous tube, or all stomach, as it may be called, and so simple in construction, that the animal may be turned inside out without detriment to it; that which was external being now internal, and performing, apparently with equal facility, all the offices of what was previously the stomach. As we advance, however, we find the nutritive organs ceasing to be a mere sucking apparatus, or a receptacle for imbibed fluids. In those whelks which are furnished with proboscides, we find a cavity occupied by the aperture of the œsophagus, a tongue, and teeth; while the snail possesses a perfectly formed mouth and lips. Among the worms, whose stomachs are generally membranous bags, we find examples of wonderful contrivance and design. Thus, the powerful stomach of one species contains three hard calcareous shells, by which the individual is enabled to bruise and masticate the shelled animals on which it feeds. The discoveries of Ehrenberg respecting the animalculæ inhabiting different vegetable infusions, have extended, in an extraordinary degree, our knowledge of the stupendous power of God; and the inimitable proofs of design displayed in beings to whom, in relative size, the mite is as an elephant, afford astonishing displays of a minute and most beneficent attention to the preservation of the creatures, in whose organisation and instinct admirable indications of creative wisdom are By the aid of the microscope, we are enabl ceive the Creator of the universe minutely t the worlds of living creatures to which he birth on a blade of grass, or in a drop of wa discover fresh scenes of wonder, and interes dent design, among hosts of animated beings, number as in minuteness. These discoveries an able analysis was lately given by Dr G the Edinburgh New Philosophical Journal, pated the obscurity in which the animals plunged, and displayed the wonders of their tion. To render their digestive organs mor cuous, he supplied them with coloured fo communicated its tinge to the cavities thro it passed. The moment a minute particle of attenuated solution of pure indigo was appli drop of water on the field of the microscope, were some of the infusory animalcules, the s tiful phenomena presented themselves. Pros bodies, which had been hitherto quite transp came dotted with a number of spots of a colour, evidently produced by particles of in mulated in these situations. In some species larly those which had a contracted part, between the head and the body, these particl be traced in a continuous line in their pro the mouth to these internal cavities. In this the employment of colouring matters, Ehren ceeded in ascertaining the existence of a sys gestive cavities in all the known species of th animals: one of the largest of which he fou sess a highly complicated structure with regu organs: with respect to the nutritive function a head provided with a regular apparatus for tion, consisting of jaws having from two to which were seen actively opening and shutt the animal was taking its food.

As we ascend higher in the scale of exis find the digestive apparatus ceasing to be a vities, or canals hollowed out of the substanc body, and becoming distinct organs formed branes and coats proper to each; and amon the first example occurs in the sea anemone, we find spaces intervening between the coat stomach and the skin of the animal: here, the stomach is still a blind pouch, one apertu ing alike for receiving and ejecting the ali matters. In the *echini* or sea-urchins these or still more perfect. Those of mastication are p developed; an œsophagus or gullet also presen and a stomach continued into a regular intestin takes two turns in the body before it terminat

DESIGN IN THE FORMATION OF INSECTS.

In the digestive organs of insects we mee multitude of new and peculiar formations, wh of the simple forms found in the lower animals repeated. The organs of mastication, deglutit suction, present such remarkable differences, arrangements of modern systems of entomol been chiefly founded on them. In this order of nutrition by vegetable substances is much more than in those below it; indeed, as Blumenbach served, the business of nutrition in insects does to have for its object the mere preservation o dividual, as in most red-blooded animals, but c consumption of organised matter, which will from considering the structure of their aliments In most of those which are subject to a metam the stomach in the larva state is of a great size parison with the short intestinal canal; while the contrary, which take little or no nourish their perfect state, have this organ remarka nished, and, as it were, contracted. How be does the great size and straight course of the apparatus of the animal, when in its caterp

ide with its enormous voracity and quick diges-

It has been computed that caterpillars some- devour and digest no less than three times their weight of aliment in four-and-twenty hours. On ther hand, during the subsequent metamorphosis the animal undergoes, no food is taken; but e, or rather the God of nature, has wonderfully, vith beneficent design, provided against any neces- or this, by causing insects to become very fat, as ved by Malpighi, on the approach of these changes; at this fat, being absorbed into the blood while are going on, serves all the purposes of a supply mentary matters from without. The insects now r consideration exhibit at different periods of their nce the greatest contrasts, not only in external , but also in their habits, instincts, and modes of stence. The larva, as we have seen, is remarkable a voracity, requiring large supplies of food, and uming enormous quantities of vegetable matter; erfect insect or butterfly, having attained its full nsions, is sufficiently supported by small quantities more nutritious food, consisting either of animal s or of the fluids prepared by flowers, which are ually of a saccharine quality, and contain nourish- t in a highly concentrated form. It is evident that ame apparatus which is necessary for the digestion he bulky food taken in during the former period, ld not be suited for the assimilation of that which is ived during the latter; and that, in order to accom- ate it to this altered condition of its function, con- able changes must be made in its structure. Who believe that these changes are made without wis- or persuade themselves that all this is to be brought t by causes divested of knowledge and understand-

Dr Roget, in his admirable Bridgewater Treatise, eautifully illustrated the subject, by very clear rrect drawings by Mr Newport, of the three diffe- tates of the entire alimentary canal of the privet moth (*Sphinx ligustri*): first, when a caterpillar; as a chrysalis; and, lastly, as the moth: and of taking our text from Roget, or rather from He- we shall endeavour to give some account. We been that in the caterpillar the stomach forms by ge most considerable portion of the alimentary bearing some resemblance in its structure and ity to the stomachs of certain worms. This is ed by a large but short and perfectly straight in- e. In the chrysalis, these organs have undergone derable modifications; the whole canal, but more ally the stomach, being contracted both in length idth: the shortening of the intestine not being rtionate to that of the whole body, obliges it to ded upon itself for a certain length. In the moth, ntraction of the stomach has proceeded much er, and an additional cavity, which may be con- d as a kind of craw, is developed; the small in- e takes a great many turns during its course, and ge pouch has been formed at the part where it the large intestine. "When we consider," say r and Spence, speaking of the phenomena which ve detailed, "the adaptation of all these changes m, the loss of old organs and the acquisition of nes, to the functions and mode of life of the l, we see evidently the all-powerful hand of that hty Being who erected the universe, upholding s providence, and the law that he has given to r creature, the system that he at first brought into nce."

insects, all parts concerned in digestion are in al smaller and less complicated in the carnivorous in the herbivorous tribes, apparently from the ers on which the former subsist being already alised, and requiring, therefore, less preparation e they are received into the blood; and it is no indication of design, to observe in them how rably parts are adapted to the animal necessities. , scorpions, spiders, millepedes, and others which for the most part on hard animal substances, are shed with jaws of a firm horny texture, in many cases very large, when compared with the size of the animal; dragon-flies and beetles, particularly the stag-beetle, are examples in which the jaws are very large and manifest, often possessing tooth-like edges; and these, too, feed on smaller insects than themselves. In another description, of which the bee, wasp, and ant, are examples, we find the animal deserting the coarser kinds of food, living chiefly on juices; and in them also we again find the same mode of taking in nourishment, as in the lowest stages of the animal kingdom, viz., by means of organs of suction, which here, however, are combined with organs for mastication. These organs of suction are still more developed in insects, such as gnats, house-flies, &c.; in them they consist of a tube, of which the sides are strong and fleshy, and moveable in every direction, like the trunk of an elephant, and having at its extremity a double fold, resembling lips which are well adapted for suction. The gnat, and other insects which pierce the skin of animals, have for this purpose instruments termed *lancets*, from their shape and office. In the gnat they are five or six in number, finer than a hair, exceedingly sharp, and generally barbed on one side; while in the house-fly they are flat, like the blade of a knife. In the butterflies, however, which are almost wholly independent of solid nutritive matter, these organs present themselves in the greatest perfection, and without any addition of teeth. The proboscis of this order of insects is a double tube, constructed by the two edges being rolled longitudinally till they meet in the middle of the lower surface, thus forming a tube on each side, but leaving also another tube, intermediate to the two lateral ones. This middle tube is formed by the junction of two grooves, which, by the aid of a curious apparatus of hooks, lock into each other, and can be either united into an air-tight canal, or be instantly separated at the pleasure of the animal.* It would be quite incompatible with the nature of this essay to enter at greater length into the evidences of design, deducible from the digestive apparatus of insects. "This immense class," says Cuvier, "in the structure of their alimentary canal, exhibit as many variations as those of all the vertebral animals together: there are not only the differences that strike us in going from family to family, and from species to species, but one and the same individual has often a canal quite different, according as we examine it in its larva or imago state;† and all these variations have relations very exact, often easily estimable, with the temporary or constant mode of life of the animals in which it is observable." That this statement is correct, we have seen; and no one can be blind enough to deny that it evinces an origin of things quite incompatible with mere brute and uncertain chance.

DESIGN IN THE FORMATION OF FISHES.

Still ascending in the scale of creation, we come to the contemplation of fishes. We ask, was it by mere chance that the respiratory apparatus of fishes was so formed that their blood receives its vivifying principle from the air which is held in solution by the water in which they move? And who cannot, in this one instance, but discern the hand of a ruling Providence, adapting the structure of animals to the habits which are to characterise them? Was it by chance that, in the plaice, the sole, the turbot, and other flat fishes, the eyes are placed both on one side of the body, an isolated instance of a want of uniformity in the two sides? No; the design is obvious: for as these animals are destined to continue always with one side in the mud at the bottom of the water, an eye on this side would have been superfluous and inconvenient to them. The same design and evident adaptation of structure to circumstances is apparent in the Surinam sprat. This singular animal generally swims so near the surface, that its eye is partly in and partly out of the water; and all its parts correspond with this strange peculiarity, the pupil being partially divided into an upper and a lower portion, and

* Roget, ii. 114.

† Imago or perfect state.

the lens consisting of two globes, an upper and a lower one attached together. It appears that the superior part of the eye is, like that of terrestrial animals, adapted to refract rays transmitted by air, and the inferior part, like that of aquatic animals, those transmitted by water, and that the refracting power of the several parts of the eye is accordingly much less above than below. With regard to the function of hearing, we find in fishes the Creator still proceeding on one vast plan or unity of design; with the exception of one species, all the parts of the ear are buried within the skull, and send no process to the surface; and this is precisely what we should have looked for in beings destined to hear through the medium of water, the vibrations of which being so much more powerful than those of air, would render the complicated apparatus requisite in terrestrial animals in them superfluous. In the class of fishes, we see the lowest condition of the alimentary canal as it is found in vertebral animals. Fishes, voracious to a proverb, subsist almost entirely on animal food. The ocean teems chiefly with animal life. It is a dense, and rich, and moving, and tempestuous element, where vegetation is comparatively small, contrasted with its developement in the light and unresisting element of the atmosphere. This rich and resisting element of water abounds in every latitude and in every drop, with all forms of animated beings. Thus, fishes have the means of easily satisfying their voracious appetites with a selection of all kinds of food. Their teeth, more instruments of prehension than mastication, are sharp, recurved, dense, and pointed cones, adapted to grasp and retain every living thing that moves in the waters, and placed in all parts of the mouth of these all-devouring animals; their œsophagus or gullet is very wide and short, and directly opening into their capacious stomach. Thus, the food of fishes not being masticated in the mouth, does not dwell there; and as they are surrounded with an abundance of moisture, they require no salivary glands for lubricating the food, and they have none. Like larvæ, their stomachs are very large; and like them, also, they are chiefly intent upon the gratification of their appetites. All other senses seem to be absorbed in this. Their brain is very small, and their senses correspondingly obtuse.* The intestine of fishes varies considerably in length, according to the kind of food; but, generally speaking, it is not longer than their bodies; whereas, in most reptiles —which compose the next class of animals in the ascending scale—it is considerably longer; a provision unnecessary in fishes, perhaps, from the matters on which they for the most part feed, being almost always of the same nature as their own bodies, and therefore requiring comparatively little preparation.

Relinquishing our plan of illustrating design by an account of the digestive apparatus, let us consider, in reptiles, the organs subservient to the function of respiration, which, though somewhat similar to the organs designed for that purpose in birds and mammiferous quadrupeds, differ from those in some remarkable particulars. In reptiles, indeed, as in birds and mammalia, there is a kind of lungs; but they are membranous and not fleshy; that is to say, the cells which they contain are so much larger as to give them a membranous and not a fleshy appearance; nay, in many reptiles the lungs consist of one membranous bag, very similar to the air-bladder of fishes. These lungs or bags are situated in the abdomen, and are loose and floating among the entrails; and they receive their supply of air, in general, not as in birds and mammiferous animals, in consequence of the formation of a vacuum around them, but by a process very similar to that of swallowing. Hence, reptiles, unlike the higher classes of animals, can still continue to breathe if their bodies are cut open, because they do not require a vacuum round the lungs. The air thus received is subservient to the purification of the blood in the usual manner; but it is not so immediately vivated as air received into fleshy lungs, owing t
size of the cells, which do not immediate
whole of it to come into contact with their
is one reason why reptiles can sustain an
to their respiration for a much longer time
and mammals; but another and a much be
is to be found in the distribution of their bl
those going to the lungs not forming a nec
of the general circulating system, but cons
it were, only an appendage to it, which may
cease to transmit blood without inconvenien
was destined always to be in the water, an
quadruped always in the air; and hence th
of their respiratory, as well as circulating
such as to incapacitate them each for the oth

DESIGN IN THE FORMATION OF BIRDS.

We come now to birds; and whether w
their external form or anatomical struct
whatever light it is possible to view them,
conclusion presents itself to the mind. In
contrivance, vast and comprehensive intell
everywhere conspicuous. Behold, in their p
and gradually enlarging head and neck, a
penetrating the yielding air; then the prow-l
the flexible rudder tail, the equipoised wing
thers at once adapted for lightness, for stre
for tenacity, and all bearing relations, not as
other, but to the air in which the animal is
wise contrivance of these could not be the
chance. The investing membranes of their l
longed from various parts of their surface in
of tubes, and expanding into bags, envelop
all the entrails, so as to keep them consta
rounded with air, and similar prolongations
also into the cavity of their bones, serving
these in the same manner—are not these pe
for the obvious purpose of giving lightness t
mal, and thus enabling it to support itself in t
and does not this palpable subserviency of o
the structure of birds to the rest, irresistibly
the truth that one master-hand has regulated t

In the beaks or bills of birds, various as
forms, we can trace an exact adaptation to th
the species. In those that tear their prey, as
and hawk—or bruise hard fruits, as the p
penetrate the bark of trees, as the woodpe
bills are of extraordinary hardness, and, in f
mately connected with the habits of the ani
those to whom a sense of feeling in this part
sary to enable them to find their food in mud
as the duck, it is very soft, generally flattene
constructed that fluids may filter through it,
solid food is retained. A bill hooked at the
sharpedges, characterises birds of prey. Anoth
of strong sharp-edged bill, of an elongated s
without a hook, serves to cut and break, but as
and this is the form of the bill in birds which
animals which make resistance in the water
these are straight, as in the heron—other
some downwards, some upwards. Some sh
bills have their sides approximating, like the
knife to its handle, and thus adapted to seize
stances; as the penguin. The small, conica
bill of poultry, serves only to take up grain.
of the smaller birds present all the varieties
nical form, from the broad-based cone of the
to the thread-like cone of the humming-bird
them as have strong short bills live on gr
with long thin ones, on insects. Where the b
flat, opening very anteriorly, as in martens
lows, the bird seizes flies and butterflies in t
if it be long and curved, possessing some st
find it grubs up worms for its food. The ma
of design which we discover in the bills of b
ing them to procure the kind of food on whi
vidual is to subsist, is apparent also in the co
of their digestive organs. As the food of

* Grant's Lectures.

ctness of texture. Nor is this all: when two
which have been separated by accident or force
ought together again, they immediately *restrap*;
unction, whatever it was, is perfectly recovered,
e beard of the feather becomes as smooth and
if nothing had happened to it. Draw your finger
he feather, which is against the grain, and you
probably, the junction of some of the contiguous
s; draw your finger up the feather, and you
all things to their former state. This is no
n contrivance: and now for the mechanism by
it is effected. The threads or laminæ above
ned are *interlaced* with one another, and the
cing is performed by means of a vast number of
or teeth, which the laminæ shoot forth on *each*
nd which hook and grapple together. A friend
e counted fifty of these fibres in one twentieth of
. These fibres are crooked, but curved after a
nt manner; for those which proceed from the
on the side towards the extremity of the feather,
ger, more flexible, and bent downwards; whereas
which proceed from the side towards the begin-
r quill end of the feather, are shorter, firmer, and
pwards. The process, then, which takes place,
llows:—When two laminæ are pressed together,
these long fibres are forced far enough over the
nes, *their* crooked parts fall into the cavity made
crooked parts of the others, just as the latch that
ned to a door enters into the cavity of the catch
o the door-post, and there hooking itself, *fastens*
or; for it is properly in this manner that one
of a feather is fastened to the other.
admirable structure of the feather, which it is
see with the microscope, succeeds perfectly for
to which nature has designed it; which use was,
ly that the laminæ might be united, but that,
one thread or lamina has been separated from
r by some external violence, it might be reclasped
fficient facility and expedition.
he *ostrich*, this apparatus of crotchets and fibres,
ks and teeth, is wanting; and we see the conse-
of the want. The filaments hang loose and
te from one another, forming only a kind of down;
constitution of the feathers, however it may fit
for the flowing honours of a lady's head-dress,
reckoned an imperfection in the bird, inasmuch
gs composed of these feathers, although they may
assist it in running, do not serve for flight.
under the present division of our subject, our
s with feathers is, as they are the *covering* of
d. And herein a singular circumstance occurs.
small order of birds which winter with us, from
downwards, let the external colour of the fea-
be what it will, their Creator has universally
them a bed of *black* down next their bodies.
we know, is the warmest colour: and the pur-
ere is, to *keep in* the heat arising from the heart
rculation of the blood. It is further likewise
kable, that this is not found in larger birds; for
there is also a reason:—Small birds are much
xposed to the cold than large ones; forasmuch
y present, in proportion to their bulk, a much
surface to the air. If a turkey were divided into
ber of wrens (supposing the shape of the turkey
wren to be similar), the surface of all the wrens
exceed the surface of the turkey, in the propor-
the length and breadth (or of any homologous
f a turkey to that of a wren; which would be,
s, a proportion of ten to one. It was necessary,
ro, that small birds should be more warmly clad
rge ones; and this seems to be the expedient by
that exigency is provided for.
oil with which birds prune their feathers, and
gan which supplies it, is a specific provision for
ged creation. On each side of the rump of birds
rved a small nipple, yielding upon pressure a
-like substance, which the bird extracts by pinch-
pap with its bill. With this oil or ointment thus
red, the bird dresses its coat, and repeats the

haustless contrivances by which every difficulty is obviated, and nature moulded to the will of its Almighty Author. How many obstacles were to be overcome before a heavy body like that of an eagle or the mighty condor could be rendered buoyant in the air, and made to track its adventurous course so high above the earth as to be almost lost to human gaze! How many conditions were necessary to give safety and enjoyment to the smallest of the winged tribes, even after the first obstacles were overcome! Yet how wonderfully simple and efficacious the means by which the whole has been accomplished! That man is indeed to be pitied who can turn even a transient glance on such a subject, without being lost in astonishment and admiration.

THE STRUCTURE OF MAN AND OTHER ANIMALS.

We now arrive at the consideration of the mammalia, or those animals which suckle their young; and at the head of this great class we find man proudly pre-eminent. We have already seen, that, as the materials on which the function of digestion is to be performed are numerous and diversified, so a difference exists in the parts which are subservient to it. Without altering the general plan of the function, or the essential parts of the organs concerned in it, nature makes such additional provisions, in the instincts by which the reception of food is guided, and in the organs by which it is assimilated, as are suited to the circumstances in which the animal is placed, to the food on which it is to subsist, and to the ulterior purposes which it is to serve in the world. Such evidences of design are very remarkable in the mammalia; and in few organs are they more powerfully instanced than in the teeth, between which, in form, structure, and position, and the kind of food on which each animal of this class is intended to subsist, the most intimate connections present themselves. These relations—which indeed may be also traced in the shape of the jaw, in the mode of its articulation with the head, in the proportional size and distribution of the muscles which move the jaw, in the form of the head itself, in the length of the neck and its position on the trunk, and, in fact, in the whole conformation of the skeleton, have been noticed from very early ages

eminences, corresponding to depre
opposed to them in the other jaw,
direct pressure in breaking down h
pounding them, as they would be in

The apparatus for giving motion
wise varied according to the particu
quired to act upon the food in the d
articulation of the lower jaw to the
similar to a hinge; but considerable
its motions by the interposition of a
between the two surfaces of articula
admirably answering the intended p
addition to the principal movemen
shutting, which are made in a ver
lower jaw has also some degree of
zontal or lateral direction, and is
being moved backwards or forwards
In the conformation of the teeth and
contrast is presented between carn
vorous animals. In the former, of w
be taken as an example, the whole
tication is calculated for the destruc
tearing and dividing the fleshy fibre
armed with pointed eminences, whic
opposite jaws, so as exactly to lock in
wheelwork, when the mouth is close
which close it are of enormous size
the herbivorous animals, on the c
antelope, the greatest force is bestow
the motions of opening and shutting
are necessary for grinding, and whi
direction. The surfaces of the teet
of great extent; and they are at th
rough, like those of millstones, their
very similar to that performed by th
grinding. The *Rodentia*, or gnawin
formed for subsisting on dry and tou
as the bark and roots, and even the w
and the harder animal textures; a
expressly adapted for gnawing, nibl
away, by continued attrition, the
organised bodies. They are all furnis
teeth generally very long and havi

als belonging to the class mammalia, we find them
ng a place in the series intermediate between those
e purely carnivorous and exclusively herbivorous
s, and in some measure uniting the characters of

The powers of the human stomach do not indeed
d to the digestion of either the tough woody fibres
getables on the one hand, or the compact texture
nes on the other; but still they are competent to
et nourishment from a wider range of alimentary
ances than the digestive organs of almost any
animal. This adaptation to a greater variety of
may also be inferred from the form and disposition
e teeth, which combine those of different kinds
completely than in most mammalia. In addition
ese peculiarities, we may also here observe, that
nse of taste in the human species appears to be
ted by a greater variety of objects than in the
races of animals. All these are concurring indi-
ns that nature, in thus rendering man omnivorous,
ded to qualify him for maintaining life wherever
uld procure the materials of subsistence, whatever
be their nature, whether animal or vegetable,
mixture of both, and in whatever soil or climate
may be produced; and for endowing him with
ower of spreading his race, and extending his
ion over every accessible region of the globe.

then, from the consideration of the peculiar
ure of the organs of his frame, may be derived
of their being constructed with reference to
es of a higher and more extensive range than
f any, even the most favoured, species of the brute
n."

re is one circumstance connected with the function
estion, as displayed in certain of the mammalia,
ich, as evidencing great and wonderful design
commodation in structure to circumstance, we

particularly allude; it is the facility and power
camel of abstaining long from drinking—a power
he is often necessitated to bring into effect during
ng period of nine, ten, or even twelve days. In
a, the camel is the chief beast of burden; and
velling through such a country, it is only at
intervals that water can be obtained; a country,
cribed by Buffon, without verdure, without water,
ing a burning sun, an air always parched, sandy
, mountains still more scorched, which the eye
over without perceiving a single animated being;
d earth perpetually tossed with the winds, and
nting nothing but bones, scattered flints, rocks
ndicular or overturned; a desert totally void,
the traveller never breathes under a shade,
nothing accompanies him, nothing recalls the
f animated nature; absolute solitude, more dread-
an that of the deepest forests, more solitary and
, more lost in an unlimited void; he everywhere
ds space surrounding him as a tomb. The light
y, more dismal than the darkness of night, serves
o give him a clearer view of his own wretchedness
mpotence, and to conceal from him the barriers of
oid, by extending around him that immense abyss
h separates him from the habitable parts of the
; an abyss which in vain he should attempt to
rse, for hunger, thirst, and scorching heat, haunt
y moment that remains to him between despair and
. Frightful as is this picture, the desire of lucre,
gratification of curiosity, and a love of enter-
no less insatiable, often tempt men to traverse the
y deserts of Arabia. For their own necessities they

provide, but no human means could afford the
bility of conveying water sufficient to satisfy the
ngs of the beasts of burden which accompany these
ditions. It is by the singular structure of the
l's stomach that it is enabled to pass several days
ut drinking, and to take at a time a prodigious
tity of water, which remains in reservoirs pure and
d, because these wells are so contrived that neither
uids of the body nor of digestion can mix with it.
t design is here!—and how redolent of wisdom,
ow full of mercy! But let us endeavour to explain

the nature of this structure which so evidently adapts the camel to be the inhabitant of the sterile and arid regions of the east:—Ruminating quadrupeds, or those which chew the cud, have two, three, or four stomachs, distinguished, when there are four, by the names of paunch, bonnet, many-plies, and caille. When the food is swallowed for the first time, it passes directly from the gullet into the paunch, where it undergoes some necessary changes, and it is then transmitted to the bonnet, to be mixed with the fluids of the cavity. This process is going on during the time the animal is grazing, when from the incessant occupation of nipping off the grass, for which its teeth are so admirably suited, it has not leisure to chew it sufficiently. When afterwards reposing itself, however, the half-chewed aliment is brought again in successive little balls, from the bonnet into the mouth, where it is subjected to a perfect mastication; and when again swallowed, it passes directly to the many-plies, thence, after some time, to the caille, and ultimately to the intestines. In the camel, however, the paunch has two deep cellular appendages; and the bonnet, or second stomach, has its internal membrane hollowed into numerous deep cells, serving as reservoirs of water, to be used only as occasion requires; while the third stomach is alone appropriated to the immediate necessities of the body. Between the end of the gullet, then, and the orifice of this third stomach, extends, through the two first, a long muscle capable of drawing up the third stomach, so as to receive alimentary matters directly from the gullet, when the immediate wants of the animal are to be supplied; but when the fluid taken is meant to be used only in its long journeys through the deserts, this muscle is relaxed, and it is thus received into the two first stomachs, and transmitted onwards by these only at the necessary intervals. The Arabs who traverse these extensive plains, accompanied by these useful animals, are, it is said, sometimes obliged, when faint and in danger of perishing from thirst, to kill one of their camels, for the sake of the water contained in these reservoirs, which is always found pure and wholesome. It is stated by those who have travelled in Egypt, that camels, when accustomed to go journies during which they are for a long time deprived of water, acquire the power of dilating the cells, so as to make them contain a more than ordinary quantity, as a supply for their journey.

COMPENSATION OF PARTS IN ANIMATED NATURE.

The evidences of design in creation are beautifully developed in what is called the compensatory structure of animals. By this is signified the supplying the defects of one organ by the structure of another part or organ. Paley has summed up a few striking instances of this nature. "The short unbending neck of the elephant (says he) is compensated by the length and flexibility of his *proboscis*. He could not have reached the ground without it; or, if it be supposed that he might have fed upon the fruit, leaves, or branches of trees, how was he to drink? Should it be asked, Why is the elephant's neck so short? it may be answered, that the weight of a head so heavy could not have been supported at the end of a longer lever. To a form, therefore, in some respects necessary, but in some respects also inadequate to the occasions of the animal, a supplement is added, which exactly makes up the deficiency under which he laboured.

If it be suggested that this proboscis may have been produced, in a long course of generations, by the constant endeavour of the elephant to thrust out his nose (which is the general hypothesis by which it has lately been attempted to account for the forms of animated nature), I would ask, How was the animal to subsist in the meantime, during the process, *until* this prolongation of snout were completed? What was to become of the individual whilst the species was perfecting?

Our business at present is simply to point out the relation which this organ bears to the peculiar figure of the animal to which it belongs. And herein all things

The hook in the wing of a *bat* is strictly a mechanical, and also a *compensating*, contrivance. At the angle of its wing there is a bent claw, exactly in the form of a hook, by which the bat attaches itself to the sides of rocks, caves, and buildings, laying hold of crevices, joinings, chinks, and roughnesses. It hooks itself by this claw; remains suspended by this hold; takes its flight from this position: which operations compensate for the decrepitude of its legs and feet. Without her hook, the bat would be the most helpless of all animals. She can neither run upon her feet, nor raise herself from the ground. These inabilities are made up to her by the contrivance in her wing; and in placing a claw on that part, the Creator has deviated from the analogy observed in winged animals. A singular defect required a singular substitute.

The *crane* kind are to live and seek their food amongst the waters, yet, having no web feet, are incapable of swimming. To make up for this deficiency, they are furnished with long legs for wading, or long bills for groping; or usually with both. This is *compensation*. But I think the true reflection upon the present instance is, how every part of nature is tenanted by appropriate inhabitants. Not only is the surface of deep waters peopled by numerous tribes of birds that swim, but marshes and shallow pools are furnished with hardly less numerous tribes of birds that wade.

The common *parrot* has, in the structure of its beak, both an inconveniency and a *compensation* for it. When I speak of an inconveniency, I have a view to a dilemma which frequently occurs in the works of nature, viz., that the peculiarity of structure by which an organ is made to answer one purpose, necessarily unfits it for some other purpose. This is the case before us. The upper bill of the parrot is so much hooked, and so much overlaps the lower, that if, as in other birds, the lower chap alone had motion, the bird could scarcely gape wide enough to receive its food; yet this hook and overlapping of the bill could not be spared, for it forms the very instrument by which the bird climbs; to say nothing of the use which it makes of it in breaking nuts and the hard substances upon which it feeds. How.

The Memoirs for the Natural His
published by the French Academy in
furnish us with some curious particula
chameleon. Instead of two eyelids, it
eyelid with a hole in it. This singular
to be *compensatory*, and to answer to
larities in the shape of the animal.
chameleon is inflexible. To make up f
so prominent, that more than half
out of the head; by means of which e
jection, the pupil of the eye can b
muscles in every direction, and is
pointed towards every object. But, th
exposure of the globe of the eye requi
city and defence, a more than ordin
eyelid, as well as a more than ordinar
ture; yet the motion of an eyelid, f
to the common construction, would h
should seem, by the convexity of the
ture in the lid meets this difficulty.
animal to keep the principal part of t
eye under cover, and to preserve it i
humidity without shutting out the li
performing every moment a nictitat
probable, would be more laborious to
to others.

But the works of the Deity are kno
Where we should look for absolute d
we can reckon up nothing but wants,
always comes in to supply the privatio
out wings, feet, or thread, climbs up th
by the sole aid of a viscid humour dis
skin. She adheres to the stems, leav
plants, by means of a sticking plaster.
might seem, by its helplessness, to li
every wave that went over it, has th
of spinning strong tendinous thread
moors her shell to rocks and timbers.
contrary, by means of its stiff tongue
a shelter in the sand. The provisions
to cases the most desperate. A *lobst*
stitution a difficulty so great, that one
jecture beforehand how nature could

ent! how was he to uncase his buckler, or draw
gs out of his boots! The process which fishermen
observed to take place, is as follows:—At certain
ns, the shell of the lobster grows soft; the animal
s its body; the seams open, and the claws burst at
ints. When the shell has thus become loose upon
ody, the animal makes a second effort, and by a
alous spasmodic motion, casts it off. In this state,
berated but defenceless fish retires into holes in
ock. The released body now suddenly pushes its
th. In about eight-and-forty hours, a fresh con-
n of humour upon the surface, *i. e.* a new shell, is
ed, adapted in every part to the increased dimen-
of the animal. This wonderful mutation is repeated
r year."

the changing of the colour of the chameleon, we
ne of the beautiful compensatory provisions of
re. This little animal, which is common in the East
s and some other Asiatic countries, lives upon flies,
es, or other insects, which it catches by climbing
rubs or trees, and darting out its tongue; but its
is slow, and as insects have good eyes to perceive
pproach of an enemy, they would be sure to make
escape in the present case, unless the chameleon
ached them in disguise. This, therefore, it inva-
r does. As it passes among green leaves, it is of
n colour; and when it glides by any of a red or
w tinge, so does it change its hue to red or yellow.
osely does it assume not only the shades and
rs, but even the shapes of the leaves around, that
tator might look at the tree for some minutes
discovering it. How wisely, therefore, has the
or endowed this poor reptile with the wonderful
altering the colour of its skin; for if it were not
sed of such a property, it would inevitably die of
r.

carrying our observation upward from the mere
al organisation of man, to the *mind* which he
sses, and is able to exert in reference to both sen-
bjects and abstract subjects, we have still greater
n to admire the proofs of design and goodness in
erruling Creator; for we all feel that this principle
nd—how constituted we do not here stop to in-
—is in harmony with the other works of creation
ad us. For example, how much are our minds
l to the recognition of what is beautiful in nature
rt. This, however, admits of a few separate ob-
tions.

BEAUTY.

e wisdom of the great original Contriver is emi-
y manifested in that property of inanimate and
nte objects which we call beauty. Here there is
ident fitness between the taste and habits of ani-
human beings included, and what can be seen by
ye. We feel pleasure in contemplating the works
ture most obvious to our senses; and we cannot
emark, that that which is loathsome is not ordi-
presented to the eye. The splendid colouring
vegetable kingdom, the smooth or spotted skins
brute creation, and the lovely plumage of the
red tribe, all give us delight in the contemplation.
er, also, how beautiful is the outward appearance
human form. Reflect on what the parts and
ials are of which the fairest body is composed,
further observation will be necessary to show
ell these things are wrapped up, so as to form a
hich will be capable of symmetry in its propor-
nd of beauty in its aspect; how the bones are
d—the bowels concealed—the roughness of the
smoothed and softened; how over the whole is
an integument, the skin, which converts the
ing materials of a dissecting-room into an object
action to the sight, or one upon which it rests at
ith ease and satisfaction.

more minutely that we inspect the works of
, the greater cause have we to wonder at the
rdinary perfection and beauty every where pre-
The microscope developes splendours in the
creation of insects which we can hardly comprehend. The back of a diamond-beetle exhibits an assemblage of brilliant colours and glittering gems more splendid than any artificial arrangement of the most precious stones. The colours of the feathers of birds in tropical climates, and the skins of the fishes of Ceylon, are incomparable for their beauty. And why is all this the case? Because it yields a pleasure to the sight, both of men and other living creatures; for the Creator has not denied the feeling of delight to the meanest reptile which crawls. All is beautiful, it would appear, in the estimation of one or other of living creatures. The most insignificant little flower, now blooming far from the haunts of men, in some remote wilderness, does not, as has been said, waste its sweetness on the desert air. It furnishes an object of pleasing gratification to some description of sentient creatures, perhaps so small as to be imperceptible to our naked eye.

Placing agreeableness of aspect entirely out of the question, there is another purpose answered by the skin, and that is concealment. Were it possible to view through this integument the mechanism of our bodies, the sight would frighten as much as it would disgust us. Durst we make a single movement, or stir a step from the place we were in, if we saw our blood circulating, the tendons pulling, the lungs blowing, the humours filtrating, and all the incomprehensible assemblage of fibres, tubes, pumps, valves, currents, pivots, which sustain an existence at once so frail and so presumptuous?

In clothing the human frame with a covering of skin, the Creator has not omitted to vary its character according to local necessities. The skin is most beautiful on the face, because the face is most exposed to observation; it is softest where least liable to injury, and hardest or firmest in texture where it is most subject to be pressed upon. There is not less sign of contrivance in the manner in which it ceases at the extremities of the toes and fingers. A man has only to look at his hand, to observe with what nicety and precision that covering, which extends over every other part, is here superseded by a different substance and a different texture. Why do we find the skin cease at our fingers' ends, or on the back part of the fingers, and not the fore part? Because something hard or horny was required on these parts, by which we could hold fast or lift nimbly objects which we wished to grasp or seize upon. Nails therefore supersede the skin on such places. The same forethought is visible in the covering of our heads. What could have been a more beautiful or appropriate substance wherewith to cover the head and preserve the hard bony skull from injury, than the hair, a substance at once light, warm, and graceful?

DESIGN IN VEGETABLE PHYSIOLOGY.

In accordance with our intentions of glancing through most of the natural sciences, and bringing home to the main object of our labours treasures illustrative of design from them all, let us now turn our attention to those afforded by the vegetable kingdom of nature. And first, of the mutual relations that exist between animals and vegetables; in considering which, we shall find that these two great organised kingdoms of the creation are made to co-operate in the execution of the same design; each ministering to the other, and preserving that due balance in the constitution of the atmosphere, which adapts it to the welfare and activity of every order of beings, and which would soon be destroyed were the operations of any one of them to be suspended. "It is impossible to contemplate so special an adjustment of opposite effects, without admiring this beautiful dispensation of Providence, extending over so vast a scale of being, and demonstrating the unity of plan on which the whole system of organised creation has been devised." We said in a former part of this essay, that two principles of atmospheric air were oxygen and carbon; that the former was as essential to animal life as the latter was obnoxious to it; but that, on the other hand, carbon was indispensable to the continuance of

to expose a large surface to the contact of air. This object is accomplished by their division into numerous cells or leaf-like processes, or by their extension on the walls of cavities, or the surface of pectinated ridges. The blood brought to these organs is there distributed by their terminating branches. Although still retained in vessels, it can nevertheless be easily acted upon by the air on the exterior. Priestley found the colour of blood changed by the air when enclosed in a moistened bladder, and the same effect was observed by Hunter when it was covered with goldbeaters' skin. It is scarcely possible to determine by direct observation what is the exact nature of the changes that the blood undergoes in its passage through the lungs; the most obvious is its change of colour; and the chemical differences between the dark purple blood in the veins before it has reached the lungs, and the bright vermilion colour it exhibits in the arteries after it has circulated through the lungs, and been exposed to the influence of the air, may be collected from the changes made in the air itself. Atmospheric air is known to consist of certain principles in definite proportions; when it has acted upon the blood, and is returned from the lungs, it is found that a certain proportion of oxygen which it contained has disappeared, and that the place of this oxygen is almost wholly supplied by an addition of carbonic acid gas and watery vapour. The exact quantity of oxygen which is lost in natural respiration, varies in different animals, and even in different conditions of the same animal. Birds, for instance, consume larger quantities of oxygen by their respiration, and hence require, for the maintenance of life, a purer air than other vertebrated animals. Vauquelin, however, found that many species of insects and worms possess the power of abstracting oxygen from the atmosphere in a much greater degree than the larger animals; thus, snails are capable of living for a long time in the vitiated air in which a bird had perished. Some insects which conceal themselves in holes, or burrow under ground, have been known to deprive the air of every appreciable portion of its oxygen. It is observed by Spallanzani, that those animals whose modes of life oblige them to remain for a great length

sation; in the latter, it is that of exce
fluous quantity of carbon from the an
the whole, therefore, the atmosphere
ceiving from the vegetable kingdom
of oxygen, and is at the same time fu
portion of carbonic acid gas, both of
to its purification, and to its remaini
respiration of animals."

We have not much space to devo
plation of vegetables, but we are unw
subject without alluding to some of
design which we find displayed in the
nothing more beautifully demonstrat
rather the Almighty Creator of natu
uniformity of plan and design, than t
as well as animals are possessed of th
ducing and continuing their species.
occupies the centre of the flower is d
the seeds, while the stamens of the
dust necessary for fertilising them, a
the seeds would not produce young pl
guarded with nice care this precious
preservation depends the continuan
The apparatus by which in many flo
from injury, is very curious; nor ar
are provided by which it comes in
stigma of the pistil less demonstrative
and a beneficent Providence. In s
the organs are in the same flower, the
above the stigma, upon which the du
by its own gravity; in others, we fi
the case, the pistil being the longe
flower is generally drooping. To ass
the pollen, and its contact with the
plants the stamens possess a very
power. When ripe, the ten stamens
alternately to bend down upon the sti
portion of pollen, and return to thei
The stalks or filaments of the pellito
possessed of a remarkable elasticity,
scatter the pollen. This is very appa
the point of a needle; immediately i
which dashes the pollen with some fo

n the pink we observe numerous small insects to and fro, and thus depositing the pollen on na. In flowers where the stamens and pistils ifferent plants, often at a considerable distance ch other, bees, and other flying insects, are ly accessory to the great end of nature. These it is true, do not visit the flower for the purpose ring the pollen; they only seek for the sweet ich exudes from its nectary. Their hairy body, ature did not bestow without design, is seen with pollen, often in such quantities as to im- progress of the animal; this, whenever they ther flower, is rubbed against the stigma; and ct, no less wonderful than calculated to fill us miration at the wise provision of nature, that sects are peculiar to one flower, and that others, ee, will only visit one species in each journey hive.

arious methods which nature employs to dis- e different varieties of seeds over the earth, y wonderful. Many plants, when the seed is e, discharge it from its covering, with a jerk or pring. The common oat is thrown out in this d the loud crackling of the pods of the broom sunshiny day, or, as Drummond has it, "burst- -balls crackling in the sun," is caused by their ; and scattering about the contained seeds, and ave been frequently noticed. "Who has not " again asks Sir James Edward Smith, "in a l sunny day, to the crackling of the furze bushes, by the explosion of their elastic little pods; or the down of innumerable seeds floating on a breeze, till they are overtaken by a shower, noistening their wings, stops their farther flight, the same time acccomplishes its final purpose, ediately promoting the germination of each seed moist earth! How little are children aware, ney blow away the seeds of the dandelion, or ars in sport upon each other's clothes, that they illing one of the great ends of nature!" These appendages to which Sir J. E. Smith alludes, the lighter seeds, as the thistles, and carry ating through the air to great distances. Then re the currents of rivers which bear the seeds ne part of the country to another; and even seas eans, whose tides and currents float along the of vegetation to the various regions of the globe. too, by feeding on particular seeds, carry them t distances, where, being often voided entire, egetate. There is evident design in this. It not have been by mere chance, that in flowers stand erect, the pistil is shorter than the stamens, ting the pollen as it falls to descend upon the ; and when the flower is drooping, that the con- rrangement is effected. And surely no one will d or hardy enough to assert that the mecha- eans, to which we have alluded, for the disper- seeds, with all the beauty and aptitude of its ement, was not the result of divine wisdom—a which will be still more apparent when we our views from the power which called into being arious and beauteous existences, and gave the of distributing them over the globe, and consider s that govern that distribution which we so much

not here out of place to remark, that there is y a vegetable production on which some species nal does not subsist; and, generally speaking, er that peculiar production is to be found, there the animal to which it furnishes wholesome food. some striking examples of this kind, the most ated man is acquainted; he knows that the par- is on the plain, the woodcock in the forests, the on the moors, and the ptarmigan on the loftiest of the mountains. He knows, too, that other migrate from country to country, seeking their distant regions, over trackless oceans, when it their native haunts; and among the animal m so universal is this, as to form an example of

the wonderful adaptations which exist between it and the vegetable world. Vegetables, like animals, are adapted to varieties of climate and temperature; and when we consider their distribution over the globe, we shall find that those which are most essential to the maintenance of man, bear a variety of climate better than most others. This is the case with greens, carrots, potatoes, and many kinds of grain. Warm climates are much more favourable to vegetation than cold. In Spitzbergen, the whole number of plants with conspicuous flowers, natives of the country, is found by botanists scarcely to exceed thirty species; while in the warmer regions of the West Indies, in Madagascar and the coast of Coromandel, Willdenow enumerates from four to five thousand different species of indigenous plants. Now, observe how admirably this distribution of plants corresponds with the wants and necessities of man. A vegetable diet is most suitable both to the tastes and the actual needs of the inhabitants of warm climates, and there we find that kind of food most abundant.

It is impossible for a reflecting individual to walk beside a field of growing barley, without being impressed with the conviction, that, in the economy of this description of grain, the design of a Creator has been wonderfully manifested. An ear of barley differs from one of wheat or oats. Each of the grains is furnished with a long slender bristle or beard, which is prickly to the touch, and seems to serve as a protection to the ear. These bristles form a roof, if we may so call it, to carry off the rain from the ear, and yet, by their elegant disposition, do not prevent the heat of the sun and the light from influencing the grain. And why should such be the case with barley, when the ears of wheat, oats, &c., do not possess any such protective process? Because barley is a grain easily injured by wet, which if not carried off, would cause the ear to sprout even while on the stalk, and consequently be entirely useless to man.

In speaking of the economy of vegetable life, it should not pass unnoticed that there is a remarkable instance of creative wisdom in the means which have been arranged for the growth of plants from putrescent matter. All kinds of vegetable and animal substances, when deprived of life, as well as excrementitious matter, have a tendency to decomposition—that is, to resolve themselves into those elementary gases of which they have been chiefly composed. This process of dissolution, as every one knows, produces a most disagreeable odour, which is often inimical to animal life. But this is not an evil; it displays a bountiful provision in nature; for it tells us, in a way not to be misunderstood, that the substance undergoing, or about to undergo, the putrifactive process, should be buried underground; and being there deposited, it immediately proceeds to supply its no longer useful gases to the infant plants and crops of grain which flourish on the surface. Thus do we see another striking evidence of the harmonious design which every where prevails between the animal and vegetable creation.

It has been said that a vegetable diet is preferred by the inhabitants of warm countries: to them sobriety is an easy virtue and a happy consequence of the climate. The people of northern regions, on the contrary, are voracious from instinct and necessity. They swallow enormous quantities of food, and prefer those substances which in digestion produce the most heat. Obliged to struggle incessantly against the action of cold, their life is but a continual act of resistance to external influences. Let us not reproach them with voracity, and their avidity for ardent spirits and fermented liquors. Those nations which inhabit the confines of the habitable world, in which man is scarcely able to withstand the severity of the climate, the inhabitants of Kamtschatka, the Samoiedes, &c., live on fish, that, in the heaps in which they are piled up, have already undergone a certain degree of putrifactive fermentation. In them there is a necessity for this inward excitement, which in our climate would be inevitably

attended with disease, and probably death. The abuse of spirituous liquors is fatal to the European transported to the burning climate of the West Indies. The Russian drinks spirituous liquors with a sort of impunity, and lives on to an advanced age, amidst excesses under which an inhabitant of the south of Europe would sink.

The influence of climate not only affects alike the regimen of man in health, but of man in sickness; and it has been justly observed of medicine, that it ought to vary according to the places in which it is practised. A few substances, for the most part obtained from the vegetable kingdom, sufficed to Hippocrates in the treatment of diseases; and physicians who practise in a climate such as Greece, may imitate the simplicity of the father of medicine. Opium, bark, wine, spirits, aromatics, and the most powerful cordials, are, on the other hand, the medicines suited to the inhabitants of the north; and thus we are enabled to use freely those medicines which elsewhere would be attended with the utmost danger.

We are now prepared to understand the beautiful and wonderful harmony that exists between the distribution of man and plants over the globe; and no one, we think, can deny their meed of praise and admiration for the care and beneficence which this universal adaptation exhibits.

The frigid zone contains but few species of plants, and the verdure of those countries which lie within the polar circle is confined chiefly to the hills having a southern aspect, and the trees are of very diminutive growth. Besides mosses and lichens, there exist ferns, creeping plants, and some shrubs yielding berries of an agreeable flavour. The arctic regions of Europe are peculiarly favoured; for in certain parts of Lapland there are fine forests, and even rye and leguminous plants are produced.

In the high latitudes of the northern temperate zone are the pine and the fir, which show their adaptation to a cold climate by retaining their verdure in the midst of the regions of winter. To these, as advancing southward, succeed the oak, the elm, the beech, the lime, and other forest-trees. Several fruit-trees, among which are the apple, the pear, the cherry, and the plum, grow better in the northern half of this zone; while to its more southern parts, especially, belong the more delicate fruits, such as the olive, the lemon, the orange, and the fig, and, among trees, the cedar, the cypress, and the cork.

The space comprised between the 30th and the 50th parallels of latitude may be considered as the country of the vine and the mulberry. Wheat extends as far north as the 60th degree; oats and barley a few degrees farther. In the southern parts of this zone, maize and rice are more commonly cultivated.

The vegetation of the torrid zone is characterised by a wealth, a variety, and a magnificence, which are nowhere to be found in the regions of the globe. Under the beams of a tropical sun, the most juicy fruits arrive at perfection; and innumerable productions supply the wants and administer to the luxuries of man. There the grounds yield the sugar-cane, the coffee-tree, the palm, the bread-tree, the pisang, the immense baobab, the date, the cocoa, the vanilla, the cinnamon, the nutmeg, the pepper, the camphor, and numerous other fruits and aromatics. In South America is the remarkable tree called the *cow-tree*, which, when incisions are made in its trunk, yields abundance of a glutinous and nourishing milk.

CONCLUSION.

But we must hasten to conclude our interesting subject. Illustrations of design might be produced from the works of nature without end; every link in the chain of creation teems with proofs of it; in none can any one affirm with truth that it is wanting. Cursory as our remarks have been, they still must lead to the general conclusion that not only design, but unity of design and identity of operation, pervade the works of nature, in as far as relates to organised existen
even among those portions of creation which are
nic, there do we find the same evident desire a
to render them subservient to the wants and n
of those which are. To several of these we hav
though it did not accord with our plan to allude t
we need only further draw attention to the re
uniformity in the plan of creation. The unive
is a system; each part depending upon other
being connected with other parts by some comm
motion, or by the presence of some common s
One principle of gravitation causes a stone
towards the earth, and the moon to wheel
One law of attraction carries all the differen
round the sun. New countries are continual
vered, but the old laws of nature are always
them—new plants, perhaps, or animals, but
company with plants and animals which we
know, and always possessing many of the same
properties. We never get amongst such or
totally different modes of existence, as to indi
we are come into the province of a new Cr
under the direction of a different will. In
same order of things attends us wherever we go
is every where a perfect uniformity in the la
regulate the phenomena of nature. And thi
while forcibly illustrating the unity of that p
whose instrumentality all that we see was or
originated, demonstrates most strikingly, at
time, the surpassing wisdom of the same creati
What agency, but one endowed with omniscienc
have educed results so mighty from a few sim
uniform laws?—could have instituted and se
these laws at the first, assured that, without ch
shadow of change, they would fulfil to the las
great objects connected with the progressive d
ment of the scheme of the universe! Thus,
we behold around us, all that we can learn o
impresses us with a sense at once of the unity an
ness of the creative being. If these pages have
to strengthen that conviction, they have attain
object. We cannot close them more fitly, p
than by extracting a few lines from the powerf
ming-up by the poet Young, of the arguments
very subject.

"What am I? and from whence?—I nothing know
But that I am: and since I am, conclude
Something eternal: had there e'er been nought,
Nought still had been: eternal there must be.
But what eternal?—Why not human race?
And Adam's ancestors without an end?
That's hard to be conceiv'd. Yet grant it true,
Whence earth and these bright orbs?—Eternal too!
Grant matter was eternal, still these orbs
Would want some other father;—much design
Is seen in all their motions, all their makes:
Design implies intelligence, and art;
That can't be from themselves, or man: that art
Man scarce can comprehend, could man bestow?
Who motion, foreign to the smallest grain,
Shot through vast masses of enormous weight?
Who bade brute matter's restive lump assume
Such various forms, and gave it wings to fly?
Has matter innate motion? then each atom,
Asserting its indisputable right
To dance, would form an universe of dust:
Has matter none? Then whence these glorious for
And boundless flights, from shapeless, and repos'd
Has matter more than motion?—has it thought,
Judgment, and genius?—is it deeply learn'd
In mathematics? Has it fram'd such laws,
Which but to guess a Newton made immortal?—
If so, how each sage atom laughs at me,
Who think a clod inferior to a man!
If art to form, and counsel to conduct,
And that with greater far than human skill,
Resides not in each block—a Godhead reigns—
And if a God there is, that God how great!"

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RS'S

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whole train of events recorded, the whole of
ly impassioned strains of poetry which distin-
e volume, are precursory and prophetic of a
ange which, at a future period, was to be
on the moral character and fate of mankind,
oming to the earth of a Messiah.
uthorship of the Old Testament has been uni-
ascribed, by both Jews and Christians, to persons
o were inspired or influenced by God to com-
e to the world a correct knowledge of the foun-
of religious belief and moral obligation. The
hence called the Revealed Word of God, or the
Scriptures. "We are to look to the Word of
od (says an able writer), as contained in the
ks of the Old and New Testaments, for the only
e of faith and practice. But there is this singu-
the Sacred Scriptures, that we do not find in
ect treatise on any one of the interesting sub-
ich engage our attention as moral and religious
No attempt is made to prove the existence of a
ch an attempt would have been entirely useless,
the fact is universally admitted. The error of
nsisted not in denying a God, but in admitting
y; and one great object of Scripture is to de-
te that there is but one. No metaphysical
ats, however, are employed for this purpose.
of rests on facts recorded in the history of the
om which it appears that they were always ric-
and prosperous so long as they served Jehovah,
e by which the Almighty made himself known
; and uniformly unsuccessful, when they re-
om him to serve other gods. What argument
e so effectual to convince them that there was
in all the earth but the God of Israel! The myste-
and universal providence of the Lord Jehovah,
ed by predictions delivered by the Jewish pro-
ointing out the fate of nations and of empires,
g distinctly the cause of their rise, the dura-
heir power, and the reason of their decline;
monstrating that *one* God ruled among the na-
d made them the unconscious instruments of
ng the purposes of his will.
writers, generally speaking, do not reason, but
and remonstrate; they do not attempt to fetter
gment by the subtleties of argument, but to
e feelings by an appeal to palpable facts. But
there is no regular treatise in the Scriptures on
branch of religious doctrine, yet all the mate-
a regular system are there. The word of God
the doctrines of religion in the same way as
em of nature contains the elements of physical
In both cases, the doctrines are deduced from
hich are not presented to us in any regular
and which must be separated and classified
e can arrive at first principles, or attain to the
y of knowledge; and in both cases, a consistent
an only be made out by induction and investi-
The very circumstance of no detailed system

—an antiquity considerably greater than that of any profane history. At whatever time, however, the different books were written, they were not collected from the sacred depositories of the Jews, where they had been carefully placed, till long after their immediate authors were deceased; and their present arrangement, as we shall afterwards explain, is of comparatively modern date.

From an early period, it was the custom of the Jews to divide the books of the Old Testament into three classes, which they respectively designated the *Law*, the *Prophets*, and the *Hagiographa*, or *Holy Writings*, which last division includes more particularly the *poetical* parts; and some are of opinion that Jesus Christ alludes to this division of the scriptures, when he says that "all things must be fulfilled that were written in the *Law of Moses*, and in *the Prophets*, and in *the Psalms*, concerning him." For by the book of *Psalms* they understand all the books of the third class. *The Law* comprehends the *Pentateuch*, that is, Genesis, Exodus, Leviticus, Numbers, and Deuteronomy —such including both an historical narrative, and the injunctions forming the legal code of the Jews. The prophetical books are eight: namely, 1. *Joshua;* 2. *Judges*, with *Ruth;* 3. *Samuel;* 4. *Kings;* 5. *Isaiah;* 6. *Jeremiah;* 7. *Ezekiel;* and 8. *the twelve Lesser Prophets.* The first four books of this division are called *the Former Prophets*, and the last four *the Latter Prophets. The Hagiographa*, or *Holy Writings*, are nine; namely, 1. *Job;* 2. *the Psalms;* 3. *the Proverbs;* 4. *Ecclesiastes;* 5. *the Song of Songs;* 6. *Daniel;* 7. *Chronicles;* 8. *Ezra*, with *Nehemiah;* and 9. *Esther.*

According to the order in which the books of the Old Testament now stand, those of an historical nature are appropriately placed at the beginning. The first five books, having a chain of connexion throughout, are Genesis, Exodus, Leviticus, Numbers, and Deuteronomy. These are styled the *Pentateuch*, such being the Greek compound for *five books.* They are likewise entitled the Books of Moses, from the belief that that enlightened Jewish leader composed them.

The Jews, or Hebrews, take the name of the sacred

ferent sorts of sacrifices; of the dist
and unclean beasts; of the different fe
the year of jubilee, or continued holid
presents us with an account of what h
Jews during the space of one month an
from the time the Tabernacle was erec
the first day of the first month of the s
the Israelites came out of Egypt, till th
of the same year, when God commande
be numbered. The Hebrews call thi
that is, *And he called*, these being the f
call it also the *Law of the Priests.*

In the fourth book, which we call *N*
numbers the Israelites, and that, too, i
of the book, which shows whence it ha
Hebrews call it *Vayedavber*, that is, *An*
book contains the history of all that p
second month of the second year afte
came out of Egypt, till the beginning
month of the fortieth year; that is, it c
tory of thirty-nine years, or thereabout
also the history of the prophet Balaam,
of the Midianites brought to curse the
and who, on the contrary, heaped ble
Israelites, and foretold the coming of t
particularly mentions, also, the two-an
ments of the Israelites in the wilderne

The fifth book is called *Deuteronomy*
which signifies *The second law*, or rathe
of the law, because it does not contain
from that which was given on Mount S
peats the same law, for the sake of the c
who had received it there, and were s
wilderness. The Hebrews call it *Elle-M*
is, *These are the words.* Deuteronom
short account of what had passed in the
then Moses repeats what he had before
Exodus, Leviticus, and Numbers, and
people to be faithful in keeping the co
God. After this, he relates what had
the beginning of the eleventh month to
of the twelfth month of the same year,

event an error into which the veneration
ad for him might cause the Jews to fall,
ccount himself; without which the Jews
bly have supposed that God *had taken him*
noch.

leath of Moses, Joshua, by the order of the
g, took upon himself the conducting of the
ple, and succeeded Moses, to whom he had
ul servant, and by whom he had been in-
hat he ought to do. It is uncertain whether
ich contains the history of this successor of
lled *Joshua*, from the subject of it, or from
een the writer of it. But it is certain that
n account of what passed from the death of
it of Joshua. Nevertheless, there are seve-
it which did not come to pass till after the
great man, and which, consequently, could
en written by him. The common opinion
gth of time it contains is, that Joshua dis-
office only for seventeen years, and that,
is book contains no more than the history
er of years.

death of Joshua, the Israelites were go-
nagistrates, who ruled under the general
of *Judges*; and the book which contains the
hese rulers is called the *Book of Judges*.
y begins with the death of Joshua, and
at of Samson. We here see the people of
slaved in punishment of their crimes, and
rfully delivered from slavery. Towards the
have some instances of this people's incli-
latry, and of the corruption of their man-
efore they had been brought into slavery.
histories of Micah, and of the Benjaminites
the Levite's wife. This book contains the
out three hundred years.

e time of the government of Judges, there
famine in the land of Israel, which forced
native of Bethlehem, to retire into the land
h his wife Naomi and two children. Eli-
there, as also his two sons, who had married
sh women, one of whom was named Ruth.
the death of her husband and her children,
Bethlehem, accompanied by Ruth, her
law, who was there married to Boaz, Eli-
ar relation, and the heir to his estate. The
contains this history is called the *Book of*
beginning of it shows that it happened in
he Judges, but under which of them is not
own: some place it in the time of Shamgar,
ah. As to the writer of this book, some
he books of Judges and Ruth were both
amuel; others attribute them to Hezekiah,
o Ezra. The Jews place the book of Ruth
five books which they usually read on all
in the year. These five books are, the
gs, Ruth, the Lamentations of Jeremiah,
, and the book of Esther. In the Hebrew
are printed or written apart by themselves,
nd up together.

books following Ruth are called by the
l also in some Latin bibles, the *History of*
Others call them all the *Books of Kings*,
y give an account of the establishment of
y, and of the succession of the kings, who
r the whole kingdom at first, and over the
f Judah and Israel after its division. At
ng of these books is the history of the
muel, which gives light to that of the kings.
ll the first two of these books the *Books of*
haps because they contain the history of
gs who were both anointed by Samuel, and
t is said of Saul in *the first*, and of David
l, proves the truth of Samuel's prophecies.
e name of the *Books of Kings* only to the
which in the Latin and French bibles are
ird and *fourth Books of Kings*.
Book of Kings, or the *first of Samuel*, con-
tory of the high-priest Eli, of Samuel, and
of Saul; and extends over a period of nearly eighty years.

The *second* contains the reign of David, which is the history of about forty years. It is commonly believed that Samuel, Nathan, and Gad, were the writers of these two books; and indeed they are called, in the end of the first book of *Chronicles*, *David's historians*.

The *third*, or, according to the Hebrews, the *first Book of Kings*, begins with a relation of the manner in which Solomon came to the throne, and contains the whole of his reign. After that, an account follows of the division of the kingdom, and the history of four kings of Judah and eight kings of Israel. All these reigns, including that of Solomon, which occupies the first forty years, comprise the space of 126 years.

The *fourth* of these books contains the history of sixteen kings of Judah and twelve kings of Israel; and embraces a period of three hundred years. It likewise gives an account of the prophets who lived during this time. It is quite uncertain who were the writers of the two last-mentioned books. They are by some attributed to Jeremiah or Ezra, but no very convincing proofs have been adduced in support of this opinion. It is evident, indeed, that these books form a varied collection of several particular histories.

The name of *Paralipomena*, which, in Greek, signifies the *history of things omitted*, is given to the two books which follow those of *the Kings*. These form, in fact, a supplement, containing what had been omitted in the *Pentateuch*, and the books of *Joshua*, *Judges*, and *Kings*, or rather they contain a fuller description of some things which had been therein only briefly related. Some give them the name of *Chronicles*, because they are very exact in mentioning the time when every transaction happened. We divide them into two books, as do also the Jews, who call them *Dibere Hayamim*, that is, an *Historical Journal*, the matters of which they treat having been taken from the Journals of the Kings. In the original language, however, the word *days* often signifies *the year*, and in this sense we may understand the term to signify properly *Annals*. The generally received opinion is, that Ezra was the compiler of these. In the *first* book, he begins with a succinct historical abridgment, from the creation of Adam to the return of the Jews from their captivity; and then he resumes the history of David, and carries it on to the consecration of Solomon, that is, down to the year before Christ 1015. The history contained in the *second book* reaches down to the year before Christ 536, when, upon the expiration of the seventy years of the captivity, Cyrus gave the Jews leave to return to their own country.

Ezra wrote the history of the return of the Jews from the captivity of Babylon into Judea. It is the history of about eighty-two years, from the year of the world 3468, when Cyrus became master of the eastern empire, by the death of his father Cambyses in Persia, and his father-in-law Cyaxeres in Media, to the year 3550, which was the twentieth year of the reign of Artaxerxes, surnamed Longimanus. This book bears the name of Ezra, who was the writer of it.

The next book is a continuation of that of Ezra, and, therefore, it is by some called *the Second Book of Ezra*. It was Nehemiah, however, whose name it also bears, who wrote it, as is said, by the advice of Ezra. It contains the account of the re-establishment of Jerusalem, and of the Temple, and the worship of God. It is believed by some writers to be the history of about thirty-one years; but its chronology is exceedingly uncertain.

After this general history of the Jews, follow two histories of particular persons, namely, *Esther* and *Job*. The first contains the account of a miraculous deliverance of the Jews, which was accomplished by means of the heroine named Esther. The history of Job is not only a narration of his actions, but contains also the entire discourses which this pious man had with his wife and his friends, and is, indeed, one of the most eloquent and poetic books in the Holy Scriptures. It is uncertain who was the author.

Next to the *historical* books of Scripture, follow those of a moral nature. The first of these is the book of *Psalms*, which are likewise in some measure historical; for they recite the miracles which God had wrought, and contain, as it were, an abridgement of all that had been done for the Israelites, and that had happened to them. The Hebrews call them the *Book of Praises*, by which they mean, *of the praises of God*. The word *psalm* is Greek, and properly signifies the sound of a stringed instrument of music. The Hebrews sung the psalms with different instruments. We make but one book of them all, but the Hebrews divide them into five parts, which all end with the words *Amen, Amen*. Though the Psalms bear the name of David, yet they were not all composed by him: some of them are more ancient, and others are of a later date than his time; some of them being ascribed to Moses, Samuel, and Ezra. Speaking of the dedication of the second temple, Prideaux says, "In this dedication, the 146th, the 147th, and the 148th Psalms, seem to have been sung; for, in the Septuagint versions, they are styled the *Psalms of Haggai and Zechariah*, as if they had been composed by them for this occasion; and this, no doubt, was from some ancient tradition; but in the original Hebrew, these psalms have no such title prefixed to them, neither have they any other to contradict it." It is not probable, however, that all those whose names they bear were the true authors of them: it is more likely that these are only the names of those to whom they were first given to sing.

After the Psalms are the *Proverbs*, which are a collection of moral sentences, of which Solomon was the writer. This name is given them by the Greeks, but the Hebrews call them *Misle*, that is, *Parables*, or *Comparisons*; and the word may also signify *Sentences*, or *Maxims*. It is a collection of divine precepts, proper for every age and every condition of life.

The book which follows is also a *moral* one, and was likewise composed by Solomon. The Greeks call it *Ecclesiastes*, which answers to the name of *Koheleth*, which it bears in the Hebrew. Both these words signify, in our language, *a preacher*, or *one who speaks in an assembly*. In this book is given an admirable picture of the vanity of worldly expectations.

Among the *moral* books is also reckoned the *Song of Songs*; that is to say, according to the Hebrew manner of speaking, *a most excellent song*. It is an inspired production of Solomon, in the allegorical form of an *epithalamium*, or nuptial song significant of the marriage and fellowship between Christ and his people: "Its majestic style, its power on men's consciences to promote holiness and purity, the harmony of its language with that of Christ's parables, and of the book of Revelation; the sincerity of the bride in acknowledging her faults, and, in fine, its general reception by the Jewish and Christian church, sufficiently prove its authenticity."—*Brown*.

In regard to the Prophets, it may be observed, that all the Old Testament is considered to be in substance one continued prophecy of the coming of a Messiah; so that all the books of which it consists are understood to be in some sense *prophetical*. But this name is more especially given to those books which were written by persons who had a clearer knowledge of futurity, who forewarned both kings and people of what would happen to them, and who, at the same time, pointed out what the Messiah was to accomplish, whom they who are acknowledged to have been prophets had always in view; and this is what ought most especially to be taken notice of in their writings.

The Prophecies bear the names of those to whom they belong. Some learned men are of opinion that the Prophets made abridgements of the discourses which they had written, and fixed them up at the gates of the Temple, that all the people might read them; and that after this the ministers of the Temple might take them away, and place them among the archives, which is the reason why we have not the Prophecies in the order in which they were written. But the interpreters of Scripture have long since laboured to restore that c cording to the course of their history.

The works of the Prophets are divided into t the first of which contains *the Greater*, and th *the Lesser Prophets*. This distinction, of co not apply at all to the persons of the prophets, to the bulk of their works. *The Greater Pro* Isaiah, Ezekiel, Daniel, and Jeremiah. *The tions* of Jeremiah make a separate book by th containing that prophet's descriptions of the tion of the city of Jerusalem and of the captiv people. *The Lesser Prophets* are Hosea, Joe Obadiah, Jonah, Micah, Nahum, Habakkuk, Z Haggai, Zechariah, and Malachi. They were contained in one single volume, which the call *Thereaser*, which means *Twelve*, or *the Tw Twelve*.

The dates of many of the prophecies are u but the earliest of them was in the days of Uzz of Judah, and Jeroboam the Second, his contem King of Israel, about two hundred years b captivity, and not long after Joash had slain Z the son of Jehoiada, in the court of the temple. was the first of the writing prophets, and Joe and Obadiah, published their prophecies about time.

Isaiah began his remarkable prophecies a sh afterwards, but his book is placed first, becaus largest of them all, and is more explicit respec advent of Christ than any of the others. The h of this eminent writer is exceedingly sublime an ing; so much so, that it has never been equalled profane poet either in ancient or modern time impossible to read some of the chapters witho struck by the force of the prophetic allusions character and sufferings of the Messiah; and, sequence of these prevailing characteristics, the is ordinarily styled the *Evangelical Prophet*, some of the ancients, a *Fifth Evangelist*. Th say that the spirit of prophecy continued forty during the second Temple; and Malachi they Seal of Prophecy, because in him the succes series of prophets broke off, and came to a period book of Malachi, therefore, appropriately clo sacred record of the Old Testament.

By referring to our historical sketch of the people,* it will be observed that the glory of vanished at the period of the conquest and capti the nation, about six hundred years before Chri a consequence, though not an immediate one, spired writings of the Old Testament were cu soon after this event, or probably four hundred before the coming of the Messiah. Thus, a pe from four to five centuries elapsed from the time Malachi concluded his prophetic enunciations, t in which the Evangelists penned the books des of Christ's life and ministrations.

NEW TESTAMENT.

The second and lesser division of the Bible, been said, relates entirely to the Christian reli the fulfilment of that which was predicted and pre in the more ancient department of the work. division of the Sacred Scriptures is generally sty *New* Testament, or that which has been a later tion and bequest; that portion of it which re the history of the life of Christ is called the Gos by some the *Evangel*, both these words having th meaning, and implying *good news*, or *glad tidings* the circumstance that the narratives contain an a of things which are to benefit mankind.

The New Testament, like the Old, is a compila books written by different inspired individuals, put together in a manner so as to exhibit a t account of the birth, actions, and death of Chri doctrines he promulgated—and the prophecies r ing the future state of the church which he fo

* No. 6. in the present series.

historical books are the four *Gospels* and the *Acts* e *Apostles*, all these being of the character of nar- es of events; the doctrinal are the Epistles of Paul, some others; the prophetic book is the last, and is d the *Revelations* or *Apocalypse of St John*, hav- been written by that apostle while he was in the d of Patmos.

he four Evangelists, or writers, are Matthew, Mark, e, and John; these having, as is generally believed, companions of Christ during his ministrations, and efore personally acquainted with his life and cha- er. Each of the four books is principally a repe- n of the history of Christ, yet they all possess a rence of style, and each mentions some circum- ces omitted by the others, so that the whole is ntial in making up a complete life of the Messiah. e distinctions in the tone of the narratives, and r peculiarities, are always considered as strong cir- stantial evidence in proof of their authenticity, and here having been no collusion on the part of the ers. But, indeed, the events they record are de- d in so exceedingly simple and unaffected a man- that it is impossible to suppose that they were ten with a view to impose on the credulity of man- . The veracity and actual belief of the Evangelists selves are placed beyond a doubt.

he first book is written by Matthew, who was by a Jew, and exercised the profession of a publican at is, a collector of the public tax or assessment sed upon the Jewish people by their conquerors, Romans. Matthew, who was also called by the of Levi, was one of the twelve apostles of Christ, e is said to have written his narrative from thirty ty years after the departure of his Master from arth. Many of the ancients say that he wrote it Hebrew or Syriac language; but it is more pro- that there were two originals—one in Hebrew, he other in Greek, the former written A.D. 37 or nd the latter A.D. 61; and that these were respec- designed for the Hebrew and Gentile nations.

ith regard to Mark, the writer of the second Gos- t may be observed, that although Mark or Marcus common Roman name, there is reason to believe his Evangelist was a Jew, who had changed his nal appellation on being converted to the faith of st. Jerome says, that, after the writing of this el, he went into Egypt, and was the first that shed the Gospel at Alexandria, where he founded a ch, to which he offered an example of holy living.

e Gospel of St Mark is much shorter than that of hew, not giving so full an account of Christ's ser- as that did, but insisting chiefly on his miracles; n regard to these also, it is very much a repetition at we have in Matthew, many remarkable circum- es being added to the incidents there related, but any new matters. There is a tradition that it was written in Latin, because it was written at Rome; his is generally thought to be without foundation, that it was written in Greek, as was St Paul's le to the Romans, the Greek being the more uni- l language. The Gospel of Mark was written at newhat later period than that of Matthew.

uke, the name of the third Evangelist, is considered me to be a contraction of *Lucilius;* and he is said Jerome to have been born at Antioch. Some that he was the only one of all the penmen of the tures that was not of the Israelites; that he was a h proselyte, and was converted to Christianity by ministry of St Paul at Antioch; and that, after the g of Paul into Macedonia, Luke was his constant panion. He had employed himself in the study and tice of physic; and hence Paul calls him *Luke the ed Physician*. It is deemed probable that Luke e both his gospel and his narrative of the *Acts of postles* at Rome, when he was there a prisoner Paul, *preaching in his own hired house*—circum- es alluded to at the conclusion of the latter work. his be the case, Luke's Gospel may be dated about y years after Christ's departure, or A.D. 63. Jerome says that St Luke died when he was eighty-four years of age, and that he was never married. Dr Cave observes, that "his way and manner of writing are accurate and exact, his style polite and elegant, sublime and lofty, yet perspicuous; and that he expresses himself in a vein of purer Greek than is to be found in the other writers of this holy history." Thus he relates several things more copiously than the other Evangelists, and thus he especially treats of those things which relate to the priestly office of Christ.

The fourth Evangelist, John, was one of the sons of Zebedee, a fisherman of Galilee, the brother of James, one of the Twelve Apostles, and distinguished by the honourable appellation of *that disciple whom Jesus loved.* The ancients tell us that John lived longest of all the Apostles, and was the only one of them that died a natural death, all the rest suffering martyrdom. It is now established that he wrote his Gospel about the year 97 or 98, when he was of an extremely old age.

After the Gospel, or History of Jesus Christ, follows the history of what passed after his ascension and was transacted by the Apostles. The book, therefore, which contains this history, is called the *Acts of the Apostles.* It is a history of the rising church for about the space of thirty years. It was written, as has been already observed, by St Luke the Evangelist, when he was with St Paul at Rome, during his imprisonment there. In the end of the book he mentions particularly his being with Paul in his dangerous voyage to Rome, when he was carried thither a prisoner; and it is evident that he was with him when, from his prison there, Paul wrote his epistles to the Colossians and Philemon, for in both of these he is named by him.

Next to this come the *Epistles of St Paul,* which are fourteen in number; one to the Romans; two to the Corinthians; one to the Galatians; one to the Ephesians; one to the Philippians; one to the Colossians; two to the Thessalonians; two to Timothy; one to Titus; one to Philemon; and one to the Hebrews. They contain that part of ecclesiastical history which immediately follows after what is related in the Acts. The principal matter contained in them is the establishment or confirmation of the doctrine which Jesus Christ taught his disciples. According as the difficulties which raised disputes among the Christians, or the heresies which sprang up in the church from the first age of it, required, St Paul in these epistles clears up and proves all matters of faith, and gives excellent rules for morality. His epistles may be considered as a commentary on, or an interpretation of, the four books of the Gospel.

The Epistle to the *Romans* is placed first, not because of the priority of its date, but on account of its superlative excellence, it being one of the longest and fullest of all, and, perhaps, also, on account of the dignity of the place to which it is addressed. It is gathered from some passages in the epistle, that it was written in the year of Christ 56, from Corinth, while Paul made a short stay there in his way to Troas. He was then going up to Jerusalem, with the money that was given to the poor saints there; which is spoken of in the fifteenth chapter of the epistle.

The two Epistles to the *Corinthians* were written about a year after that to the Romans, viz. A.D. 57; that to the *Galatians,* A.D. 56; to the *Ephesians,* A.D. 61; to the *Philippians,* A.D. 62; to the *Colossians,* A.D. 62; two to the *Thessalonians,* A.D. 51 and 52; the first to *Timothy,* A.D. 64; the second to *Timothy,* A.D. 66; to *Titus,* A.D. 65; to *Philemon,* A.D. 62; and that to the *Hebrews,* A.D. 62. From which chronology it appears, that the Epistles of St Paul are placed in the New Testament rather according to the dignity of the cities to which they were sent, than according to the order of time in which they were written; for the Epistles to the Thessalonians were those he wrote first, though that to the Romans is placed before them. Interpreters are agreed that the last epistle which he wrote was the second to Timothy.

St Paul wrote to the churches of some particular places, or to some particular persons; but the other

however little they admit of controversy, it may, on the other hand, be observed, that the strong arguments and illustrations brought forward in the Epistles by Paul and others, were necessary, in order to combat the sophistry of the Greeks and the self-sufficient philosophies of other nations. Paul, the chief of the epistle writers, who became a Christian by conversion, after Christ had departed from the earth, is the great champion of the faith, and exposes, in strong and perspicuous language, the hidden depravities of the human heart; so that, where the affecting discourses and sufferings of the Messiah fail to convert and to convince, the reasoning of this great writer is calculated to silence and subdue those who stubbornly resist the benignant influence of the Christian faith.

Such, then, were the various books written to convey to posterity a faithful account of Christ's life and mission, and consequently of the religion which it was his purpose to institute. It will have been observed, that the whole were inscribed within the first century, and gradually accumulated in the hands of the primitive church, as an imperishable basis on which the faith of Christians should be founded.

AUTHENTICITY OF THE SCRIPTURES.—APOCRYPHA.

With respect to the authenticity of both the Old and New Testament books, as generally received, we of course look to the estimation in which they were respectively held by those with whom they had been deposited, and who unquestionably possessed the best evidences of their credibility. The Jews, as is well known, were most scrupulous in preserving entire the works of their inspired writers, and of preventing the intrusion of literal errors into the copies which were from time to time transcribed. Of the fidelity of the original text, there cannot, we think, be any reasonable doubt; and although there are what are called various readings, these are of an exceedingly unimportant character. Referring to this subject, it is said by the learned Dr Adam Clarke, "that all the omissions of the ancient manuscripts, put together, would not countenance the omission of any essential doctrine of the gospel, relative to faith or morals; and all the additions which then prevailed, and which they supp been traditionally conveyed down from writers.

The respect which the Jews have unifo the sacred books, has been almost allied to They are directed to be written upon pare from the skin of a clean animal, and to be with strings of similar substance, or sew hair which has been spun and prepared It must be likewise a Jew that writes t they are extremely diligent and exact i the least fault profanes the book. Every s ment is to contain a certain number of co are to be of a precise length and bre contain a certain number of words. Th written with the purest ink, and no word ten from memory; it must be first orall by the copyist. The name of God is d written with the utmost attention and c the transcriber is to wash his pen before it on the parchment. If there should el word with either a deficient or a redund should any of the prosaic part of the O be written as verse, or *vice versa*, the n vitiated. No Hebrew manuscript with an is, on any account, admitted into a synago private individuals are permitted to hav mented for their own use; but in the illu resemblance of any animal denounced by unclean cannot be admitted. Among the r the Book of Esther, in particular, is fre rated with rude figures of various kinds; spect to this book, it must be observed, t its wanting the sacred name of God, it i such repute for holiness as the other boo manuscripts for private use may be either ment, vellum, or paper, and of various si is," says Prideaux, "in the church of S Bononia, a copy of the Hebrew Scripture great deal of care, which they pretend to b copy, written by Ezra himself; and, th there valued at so high a rate, that great s have been borrowed by the Bononians u

attempts have been made to intrude uncano-
ks into the authentic body of ancient Scripture.
Testament has been exposed to similar vitia-
the third and fourth centuries, there were
rged by divers sects, and published, one under
of St Peter, another of St Thomas, another
ship, &c. But they were never owned by the
ur was any credit given to them, as the learned
ly shows. And he gives this good reason why
adhere to records written at or near the time
—"Because," says he, "whatever the pre-
tradition may be, it is not sufficient to pre-
gs with any certainty, as appears by experi-
e wherein Christ said and did many memorable
hich *were not written*, tradition has not pre-
ny one of them to us, but all is lost except
written; and that, therefore, is what we must
y."

has been said of the integrity of the text of
Testament, may be applied also to the New, in
it may be charged with corruptions in conse-
f the negligence of transcribers. Though it
admitted that the New Testament text, by
re frequently transcribed than the Old, be-
ble to a greater proportion of various readi-
ginating from the mistakes of the transcribers,
very circumstance was likewise a sure preser-

f; thence canon is used to denote the rule or standard
e Christianity. The same term is employed to desig-
llection of books containing this rule, that is, the canon
e of the Holy Scriptures which the Church acknowle-
he canon of the books of the Old Testament, as drawn
Jews in the fourth century before Christ, receives in
qual respect among all Christians, because Christ and
s have expressly appealed to them, and pronounced
ngs inspired by God. The apocryphal books of the Old
, whose canonical character the Jews did not acknow-
Eastern [or Greek] Church has never received; but
n [or Roman] Church declared them canonical, in the
uncil, about the end of the fourth century." What
said to be the explanation of a Catholic. "The Holy
are esteemed sacred by the Catholics, because the
s transmitted them from age to age as sacred, and
of revelation, as far as any writings can be. The
e only declared what writings have been handed down
r origin. The catalogue of these Holy Scriptures is the
e writings themselves are called canonical books. In
, the Protestant Church has no canon; it rejects the
f all traditions of the Church. Hence, in order to be
, it must leave every Protestant, on free investigation,
what books he will regard as canonical. But the Bible,
f the Protestant faith, is made up of separate canonical
l by pursuing such a course, the basis of the Protestant
t be undermined. It has been agreed, therefore, how-
sistently, to adopt the New Testament canon of the
hurch. But, in fixing the canon of the Old Testament,
ns of the Catholic Church have been rejected; and,
the African councils and the usage of the Roman
tablished by the Council of Trent, part of Esther, also
obit, Judith, Wisdom, Ecclesiasticus, or Jesus the Son
the Two Books of Maccabees, the Song of the Three
the Fiery Furnace, described in Daniel, together with
o chapters of this prophet, are thrown out as uncano-
pocryphal. It is worthy of mention, that a contro-
is subject broke off the negotiations for a union of the
nd Protestant Churches, which commenced in the be-
the eighteenth century between Leibnitz, Molanus, and
The above explanation is scarcely correct, as respects
ant idea of the canon of Scripture. The church of
for example, does not implicitly adopt the Roman Ca-
; it founds its rule of faith on that which is believed
n the canon in the earliest centuries of Christianity.
rch of England, in determining the sense of the Bible,
h respect to the voice of the most ancient fathers and
nd not only with respect, but even with submission,
voice is all but unanimous."—*Life of Jewel.* "The
Trent confirmed the decision of some previous councils,
the books of the Apocrypha were declared to belong to
of the Old Testament; contrary to that of the council
s, A. D. 364, which, by an express canon, enumerated the
of the sacred books as received by Protestants."—
nder's View of all Religions.

of that antiquity usually assigned to them, there cannot be any reasonable doubt; in other words, the writers wrote the books in perfect good faith, believing that what they penned was true, and the very books are those now before us in the New Testament. On these points, an able divine remarks:—"It must be esteemed a strong circumstance in favour of the antiquity of the New Testament, that on a subject in which the chances of detection are so numerous, and where we can scarcely advance a single step in the narrative without the possibility of betraying our time by some mistaken allusion, it stands distinguished from every later composition, in being able to bear the most minute and intimate comparison with the contemporary historians of that period. The argument derives great additional strength from viewing the New Testament, not as one single performance, but as a collection of several performances. It is the work of no less than eight different authors, who wrote without any appearance of concert, who published in different parts of the world, and whose writings possess every evidence, both internal and external, of being independent productions. Had only one author exhibited the same minute accuracy of allusion, it would have been esteemed a very strong evidence of his antiquity. But when we see so many authors, exhibiting such a well-sustained and almost unexpected accuracy through the whole of their varied and distinct narratives, it seems difficult to avoid the conclusion, that they were either the eye-witnesses of their own history, or lived about the period of its accomplishment."*

A minor point in the history of the Bible now requires to be noticed. In the earliest times the writings of the Old Testament were divided into books and short paragraphs equivalent to verses; but the division into chapters and verses in which they now appear was of a much later date. The separation of both the Old and New Testament books into chapters and verses, is by some writers ascribed to Arlott, a Tuscan monk, or rather to Hugh Cardinalis in the thirteenth century; while others allege that, from the comments of Theophylact on the Gospel, this must have been effected two centuries earlier. The question is not very important, and it is sufficient for the purposes of general knowledge

writings. With the earliest organisation of tian church may be said to have commence in the history of the Bible. The Old Testa whether in the form of Hebrew, Chaldai versions, were still cherished by the Heb hood as they are at this day; but copies w accessible to the early Christians, and by apostles and disciples they were treasured phetic testimony of God's eternal design fo tion of mankind, in the grand event whi actually occurred—the coming of Jesus Ch

When the books of the New Testamen lected and authenticated by the early fathe members of the Christian church, they w equal esteem with those of the Old, and ca served along with them. Though still manuscripts, they were generally in the Gr but, during the first three centuries of our or the language of the Romans, came larg in literature, and, in the same manner as European languages in later times sup Latin, so did the Latin supersede the Gre tine (born 354—died 430) mentions that, pr time, there existed a great number of La of the Scriptural writings. "We know translated the Scriptures into *Greek*," sa the number of them is not great; but th the *Latin* translators is infinite. When th to be established, the first man who fel copy, notwithstanding the little knowledge two languages, boldly undertook a transl From another passage of his writings it ha rally concluded that there was one partic called "the Italian," in higher estimati rest, and which was the authorised version churches. However this may be, it is cer Latin church required a version of the formed directly from the Hebrew, as all the lations in existence at that time had been the SEVENTY. Jerome, who was the cont Augustine, was in every respect best suite the learned men of that time, to the task new translation, which he accordingly und

e Council of Trent, since which time corrected
ns have been published under the authority of
pes Sextus V. and Clement VIII. By the Roman
ic body it is held in the highest esteem, and is
ed equivalent in value to the Scriptures in the
l tongues.

seems to us the most proper place to notice—
ust be clear to every one's comprehension—that,
safe custody and verification of the Scriptures,
he period at which the New Testament books
ollected, we are indebted to the Church, or, to
more plainly, that series of ecclesiastical func-
es whose history is extended from the apostolic
till the present. Until the Bible, therefore, was
d to the people by the greatest of all mechanical
tions, the art of printing, and in that respect
beyond the reach of private interpolation or error,
ty, as a record, was dependent on the care and
n of the church, and for the faithful performance
important service, no one surely will refuse a
ed of thankfulness and praise. From motives no
conscientious, many who have now the Bible in
ands may consider the Church a valueless insti-
; but to this incorporation are they unquestionably
ed for preserving the Scriptures through ages of
ution and civil uproar. From the era of Augus-
d Jerome, when copies of the sacred books came
onsiderably greater request by the scattered
es of the Church, transcripts were effected by
and latterly by monks, with a diligence and ac-
which demand our utmost esteem and appro-
. In the cells of monasteries, surrounded by
of barbarous nobles and their serfs, learning
refuge from oppression; and there, in the darkest
of European history, were humble and pious
astics engaged, certainly from no worldly consi-
on, in penning copy after copy of the Sacred
gs, and bequeathing them as memorials of their
ry to future and more fortunate generations.

h before and after the application of printing to
ly copies of the Bible, translations, either direct
the original tongues or from the Greek versions,
effected by almost every people to whom Chris-
was introduced. Thus, copies of the Scriptures
bic, Persian, Sclavonic, and other tongues, were
ed. One of the most ancient of these is that
ated for the use of the Armenian Christians in the
r sixth century.* Portions of the Scriptures are
stood to have been translated into Anglo-Saxon,
e in the first British churches, as early as the sixth or seventh centuries; and the whole Bible was translated by Bede, an eminent Romish ecclesiastic, in the beginning of the eighth century. The first English Bible we read of was that translated by Wickliffe, one of the earliest English reformers, about the year 1360, but never printed. The part of the English Bible first printed was the New Testament, translated by William Tindal, assisted by Miles Coverdale; it was printed abroad in 1526, but, giving offence to the church, was bought up and burnt. "In 1532, Tindal and his associates finished the whole Bible except the Apocrypha, and printed it abroad: but while he was afterwards preparing for a second edition, he was taken up and burnt for heresy in Flanders. On Tindal's death, his work was carried on by Coverdale, and John Rogers, superintendant of an English church in Germany, and the first martyr in the reign of Queen Mary, who translated the Apocrypha, and revised Tindal's translation, comparing it with the Hebrew, Greek, Latin, and German, and adding prefaces and notes from Luther's Bible. He dedicated the whole to Henry VIII. in 1537, under the borrowed name of Thomas Matthews; whence this has been usually called *Matthews's Bible.* It was printed at Hamburgh, and licence obtained for publishing it in England by the favour of Archbishop Cranmer and the Bishops Latimer and Shaxton. The first Bible printed by authority in England, and publicly set up in churches, was the same Tindal's version, revised, compared with the Hebrew, and in many places amended, by Miles Coverdale, afterwards Bishop of Exeter, and examined after him by Archbishop Cranmer, who added a preface to it; whence this was called *Cranmer's Bible.* It was printed by Grafton, was of large size, and published in 1540; and, by a royal proclamation, every parish was obliged to set one of the copies in its church, under the penalty of forty shillings a-month; yet, two years after, the bishops obtained its suppression by the king. It was restored under Edward VI., suppressed again under Queen Mary, and restored again in the first year of Queen Elizabeth, and a new edition of it given in 1562. Some English exiles at Geneva in Queen Mary's reign, namely, Coverdale, Goodman, Gilbie, Sampson, Cole, Whittingham, and Knox, effected a new translation, printed there in 1560—the New Testament having been printed in 1557—hence called the *Geneva Bible;* containing the variations of readings, marginal annotations, &c., on account of which it was much valued by the Puritan party in that and the following reigns. Archbishop Parker resolved on a new translation for the public use of the church, and engaged the bishops and other learned men to take each a share or portion. These being afterwards joined together, and printed with short annotations in 1568, in large folio, made what was afterwards called the *Great English Bible,* and commonly, the *Bishop's Bible.* In 1589, it was also published in octavo, in a small but fine black letter: and here the chapters were divided into verses; but without any breaks for them, in which the method of the Geneva Bible was followed, which was the first English Bible where any distinction of verses was made. It was afterwards printed in large folio, with corrections, and several prolegomena, in 1572: this is called *Matthew Parker's Bible.* The initial letters of each translator's name were put at the end of his part. The archbishop oversaw, directed, examined, and finished the whole. This translation was used in the churches for forty years, though the Geneva Bible was more read in private houses, being printed above twenty times in as many years."

Various editions of the Bishop's Bible were printed at London in black letter at the beginning of the seventeenth century; but notwithstanding the care that had been expended on it, the version was not very correct, and its language was often far from elegant. To amend these deficiencies, and to obtain a really excellent version, James I. ordered an entirely new translation, which is that now in common use throughout Great Britain. To effect this very important undertaking, forty-seven distinguished scholars were appointed, and

'or the more commodious comparison of different versions, of them have been sometimes joined together. In his d Bible, Origen placed, in different columns, a Hebrew oth in Hebrew and in Greek characters, with six different rersions. Elias Hutter, a German, about the sixteenth ', published the New Testament in twelve languages, , in Greek, Hebrew, Syriac, Latin, Italian, Spanish, , German, Bohemian, English, Danish, Polish; and the ible in Hebrew, Chaldaic, Greek, Latin, German, and a 'ersion. But the most esteemed collections are those in he originals and ancient translations are conjoined, such omptutensian Bible, by Cardinal Ximenes, a Spaniard; g of Spain's Bible, directed by Montanus, &c.; the Paris y Michael Jay, a French gentleman, in ten large folio , copies of which were published in Holland, under the r sanction] of Pope Alexander VII.; and that of Brian afterwards Bishop of Chester. This last is the most ind valuable: it contains the Hebrew and Greek originals, ntanus's interlineary version; the Chaldee paraphrases, uagint, the Samaritan Pentateuch, the Syriac and Ara-s, the Persian Pentateuch and Gospels, the Ethiopic Song of Solomon, and New Testament, with their re-Latin translations; together with the Latin Vulgate, rge volume of various readings, to which is ordinarily astel's Heptaglot Lexicon—all included in eight volumes *Brown's Dictionary of the Bible.*

l scholars are now greatly assisted in their studies by ication of poly-glott editions of the Bible, containing in columns versions in various ancient and modern lan-The word *poly-glott* signifies many tongues.

writer, whether the translation was effected from Hebrew copies of the Old Testament or the Greek Septuagint, or whether any transcriptions of the original manuscripts were consulted;* but it is allowed by all persons competent to judge, that the version possesses extraordinary merit, and is the most perfect ever produced.

CHRISTIANITY.—HISTORY OF THE CHURCH.

Early History.

At the period of Christ's appearance on earth,† the land of Judea had sunk to the condition of a Roman province, and its people, the Jews, were in a condition not only of civil but great moral degradation. Their religion, as appears from all history, had degenerated from its ancient and lofty character, and existed only as a system of empty external observances in the hands of a priesthood to the last degree corrupt. The leaders of the people, and the chief priests, according to the account of Josephus, were persons of profligate manners, who had purchased their places by bribes or by acts of iniquity, and who maintained their authority, in subordination to the Roman civil power, by flagitious crimes. The multitude, affected by the example of their superiors, were not less corrupted in morals; and in a general sense it may be understood that the entire nation was in a state of lamentable disorder. To aggravate the distractions of the people, they were divided into a variety of sects, who, in proportion as they neglected the essentials of religious faith and practice, occupied themselves in disputes respecting matters of inferior concern. Of these sects, three in a great measure eclipsed the rest, both by the number of their adherents, and also by the weight and authority which they acquired: these were the Pharisees, the Sadducees, and the Essenes. The chief difference of opinion among these leading sects regarded the interpretation to be put on the *words* in the Holy Scriptures; and none of them seemed to have the interests of true piety at heart. The best of the three was the Essenes, who discountenanced ostentation in religious offices, and inclined to lives of secluded meditation. While the Jews, then, were thus broken up into contending sects, and were

suitable to the daily and seasonal influ
climate; Hindooism enjoins constant
Ganges, besides other local observa
mark these religions as but referable t
and countries, and not compatible wit
ence in all parts of the earth. Settin
present, all other considerations, Ch
cluding no obligation which could not
formed in one part of the globe as an
in one age as another, is something ve
religions either temporary or local in
In this universal and eternal applicabi
find one of the grandest features of
Christ.

The promulgation of the principle of
volence and love—the antagonism of e
lent emotion—was, whatever may be
the Jewish people. True, they belie
the Creator of all things, and so far h
the Source of religion; they also pos
mandments of the Mosaic law; but wh
sion, did they view the Gentile nation
in any other light than as an inferior r
to whom their laws and usages had no
bility! Practically, their religion was
tions, while Christianity was all for
"The Greeks, besides developing the
beautiful in their works of art, had laid
of valuable sciences applicable to the
The Romans had established the prin
political administration, and proved th
perience. These scattered elements o
tellectual cultivation, insufficient, in
state, to bring about the true happines
fection of man, in his social and indi
were refined, perfected, and combined,
through the law of a pure benevolence,
of which is that of rendering men good
God, and which finds, in the idea of a kin
upon earth, announced and realised by
means of executing its design. His
what was wanting in these nations—a rel

l, arisen, and glorified Mediator between earth, it taught them to discern the benexion of the future life with the present."* f chronology differ with regard to the year fixion of the Saviour, some placing it in thers in A.D. 33. In either case, as is known rs of the evangelical history, the apostles s who had followed him while on earth ly after his departure, those ministrations were commissioned to execute by their di-, and which had for their object the dissethe Gospel in all parts of the world. It will ecollected, that, in consequence of the deleath of the traitor Judas, the apostles were leven in number—Peter, and Andrew his mes the son of Zebedee, and John his ilip and Bartholomew; Thomas and Mats the son of Alpheus, and Jude his brother; a the Canaanite. Afterwards, they elected place of Judas. The number, however, was d to eleven, by the murder of James, the ohn, by Herod (A.D. 44).

ociety or church established by the apostles salem; and, from all that can be learned, it nost simple and unpretending scale, corresthe nature of the religion which they pro- of Christ's most emphatic declarations had his kingdom was not of this world," by ignified that the Christian doctrines and red exclusively to the mental affections, ness of the heart, not of outward show or on, and had in other respects no alliance minion. The humble but intrepid apostles, the course of their preaching and teaching d afterwards in other countries, took no design to subvert temporal governments, them into contempt; neither did they themselves with civil rulers, but confined in all places to their proper functions of ers to be converted to the faith of Jesus, those who mourned, animating the piety ted, and, in particular, assisting the poor

Of the forms of Christian worship in state of the Church, little is known; and, pears that some time elapsed before the r at least the pupils to the apostolic teachers, forms enjoined in the old Judaic mode of cording to Mosheim, they "held separate n which they were instructed by the apostles prayed together, celebrated the holy supper ance of Christ, of his death and sufferings, ation offered to mankind through him; and usion of these meetings, they testified their , partly by their liberality to the poor, and ber and friendly repasts, which thence were *of charity*. Among the virtues which dishe rising church in this its infancy, that of to the poor and needy shone in the first h the brightest lustre. Having finished their rusalem, the apostles proceeded to other travelled over a great part of the known short time planting a vast number of nong the Gentiles. Several of these are n the sacred writings, particularly in the *Apostles*, though these are undoubtedly but of the churches which were founded, either les themselves or by their disciples under liate direction."

our design to enter into a formal detail of nted the various points of belief and relice in this early age of the Church. It will od that there was at first no body of written swering as a fountain of doctrine and preas we now possess in the collected books Testament; and that apostles, and those ised up to assist them in their holy cause, ingly thrown much more on their own resources, and more dependent on God's inspiring power to teach and direct, than required to be the case in more advanced times. To use the words of Mosheim—"Among the first professors of Christianity there were but few men of learning; few who had capacity enough to insinuate into the minds of a gross and ignorant multitude the knowledge of divine things. God, therefore, in his infinite wisdom, judged it necessary to raise up, in many churches, extraordinary teachers, who were to discourse in the public assemblies upon the various points of the Christian doctrine, and to treat with the people, in the name of God, as guided by his direction, and clothed with his authority. Such were the *prophets* of the New Testament."—(Rom. xiii. 6; 1st Cor. xii. 28; xiv. 3–29; and Eph. iv. 11.)

Much as we desire to do so, it is impossible for us to pass over a circumstance in the history of these early times, which has led to centuries of discord; we allude to the early form of church government. We shall allow a place to Mosheim's explanations on this subject. "Neither Christ himself, nor his holy apostles, have commanded any thing clearly or expressly concerning the external form of the Church, and the precise method according to which it should be governed. From this we may infer, that the regulation of this was, in some measure, to be accommodated to the time, and left to the wisdom and prudence of the chief rulers, both of the state and of the Church. If, however, it is true that the apostles acted by divine inspiration, and in conformity with the commands of their blessed Master (and this no Christian can call in question), then it follows, that that form of government which the primitive churches borrowed from that of Jerusalem, the first Christian assembly established by the apostles themselves, must be esteemed as of divine institution. But from this it would be wrong to conclude that such a form is immutable, and ought to be invariably observed; for this a great variety of events may render impossible. In those early times, every Christian church consisted of the *people*, their *leaders*, and the *ministers*, or *deacons;* and these, indeed, belong essentially to every religious society. The people were, undoubtedly, the first in authority; for the apostles showed, by their own example, that nothing of moment was to be carried on or determined without the consent of the assembly, and such a method of proceeding was both prudent and necessary in those critical times.

It was, therefore, the assembly of the people which chose their own rulers and teachers, or received them by a free and authoritative consent, when recommended by others. The same people rejected or confirmed by their suffrages the laws that were proposed by their rulers to the assembly, excommunicated profligate and unworthy members of the church, restored the penitent to their forfeited privileges, passed judgment upon the different subjects of controversy and dissension that arose in their community, examined and decided the disputes which happened between the elders and deacons, and, in a word, exercised all that authority which belongs to such as are invested with the sovereign power. The people, indeed, had in some measure purchased these privileges, by administering to the support of their rulers, ministers, and poor, and by offering large and generous contributions, when the safety or interests of the community rendered them necessary. In these supplies, each one bore a part proportioned to his circumstances, and the various gifts which were thus brought into the public assemblies were called *oblations*.

The rulers of the church were called either *presbyters* or *bishops*, which two titles are, in the New Testament, undoubtedly applied to the same order of men. These were persons of eminent gravity, and such as had distinguished themselves by their superior sanctity and merit. Their particular functions were not always the same; for while some of them confined their labours to the instruction of the people, others contributed in different ways to the edification of the church. Hence the distinction between *teaching* and *ruling presbyters*

*lopedia Americana, article CHRISTIANITY.

nor splendid. Three or four presbyters, men of remarkable piety and wisdom, ruled these small congregations in perfect harmony, nor did they stand in need of any president or superior to maintain concord and order where no dissensions were known. But the number of the presbyters and deacons increasing with that of the churches, and the sacred work of the ministry growing more painful and weighty by a number of additional duties, these new circumstances required new regulations. It was then judged necessary that one man of distinguished gravity and wisdom should preside in the council of presbyters, in order to distribute among his colleagues their several tasks, and to be a centre of union to the whole society. This person was at first styled the *angel* of the church to which he belonged, but was afterwards distinguished by the name of *bishop*, or inspector; a name borrowed from the Greek language, and expressing the principal part of the episcopal function, which was to inspect and superintend the affairs of the church. It is highly probable that the Church of Jerusalem, grown considerably numerous, and deprived of the ministry of the apostles, who were gone to instruct the other nations, was the first which chose a president or bishop. And it is no less probable that the other churches followed by degrees such a respectable example. * * * A bishop, during the first and second century, was a person who had the care of one Christian assembly, which at that time was, generally speaking, small enough to be contained in a private house. In this assembly he acted, not so much with the authority of a *master*, as with the zeal and diligence of a faithful *servant*. He instructed the people, performed the several parts of divine worship, attended the sick, and inquired into the circumstances and supplies of the poor. He charged, indeed, the presbyters with the performance of those duties and services which the multiplicity of his engagements rendered it impossible for him to fulfil; but had not the power to decide or enact any thing without the consent of the presbyters and people. And though the episcopal office was both laborious and singularly dangerous, yet its revenues were extremely small, since the church had no certain income, but depended on the

that the custom of holding counci
Greece, from whence it soon spread
provinces."

According to these explanations,
that the earliest constitution of the cl
ingly simple, being in a great measur
separate and independent religious in
gradually assumed the external feat
rianism (equality of rank, but mutual
that, finally, as Christianity spread, s
societies of believers required the
counsel of superiors, there arose a s
pacy or superintendence by apostol
cording to others, the bishops exerci
dence from the first, the earliest be
and it is reasonable to suppose that
rior directors, exercising an author
perfect love, must have been necessa
order and uniformity of doctrine; i
time certain that, whether in the cap
superiors, the apostles and early bish
office of ordinary teachers of religio
sioning of ministers of the gospel by
symbol of laying on of hands, appea
from the earliest ages of Christianity
of the church at Antioch, founded by
bas, were the first who received the n
having been previously called Naza
derision.

From about the conclusion of the
century, there flourished a body of
connexion with the Church, whose
said to have generally united those
divinity and ethics with the pastoral
known in Church History by the title
were of two chief classes—Greek an
and were alike distinguished for thei
most celebrated among the Greek fat
of Alexandria (beginning of the seco
was the first who philosophised on Chr
at one time a pupil of Clement, o
homilies and writings illustrative of
Eusebius, who wrote the first histor

into subordinate ranks and offices; the
remonial observances, fasts, and festivals;
l, differences of opinion among Christians
f belief. One main cause of the variety of
it be traced to the collateral influence of
philosophies, particularly that of Plato.
ts had been educated in these philosophies,
Christianised, they still retained the subtle
notions implanted in their minds, as well as
usages. From disputing in the schools
n questions in metaphysics, they betook
o controversies on the most abstruse points
From controversy, the disputants natu-
d into heresy and schism; and hence we
ile the Christian Church was on all sides
gainst barbarous powers, it was itself torn
division. In this general sketch, we can
that the leading sectaries at this period
nichæans, Hieracites, Sabellians, and No-
nd in the fourth century the heresy of
out, and produced incalculable injury.
latter event, the external condition of the
erwent an entire change.
y three hundred years after the death of
hurch, though gradually altering in internal
, doctrinal belief, and ritual observance,
independent spiritual community, reposing
e but glorious basis on which it had been
Divine Author, and in which condition it
to have been invulnerable. The conversion
ne the Roman Emperor, in 321,* at once
primitive state of the Church. "Before
nt period, some churches had been liberally
y the devotion and zeal of wealthy indivi-
et the situation of the clergy was insecure
ptible in the eyes of the Pagan world.
they lived in princely splendour, honoured
d as the first rank of men in the empire.
ey had been sunk in the gloom of obscurity,
y basked in the broad sunshine of honour,
imperial favour. To a person who con-
e aspect of the Roman empire in that age,
l seems to appear. The system of poly-
dol worship, which, from time immemorial,
ompous ceremonies and splendid festivals,
the veneration of mankind, fell into disre-
Christianity, which had so long been the
iversal contempt, and frequently of cruel
, at last triumphed over all opposition, and
established religion of the masters of the
Roman empire saw magnificent churches
the worship of the crucified God, whose
been long despised, and the rites of the
ligion celebrated with a pomp and solemnity
superior, to what had been displayed in the
les. A total revolution was taking place
re of religious opinions and the combina-
nan ideas. What a scene would this have
a Christian of the apostolic age, or of that
diately succeeded it! What would a Chris-
mind had been formed, whose religious ideas
nodelled, by the simple and disinterested
primitive Christianity, think, on seeing the
f the humble and lowly Jesus display the
e of sovereign princes! And what must have
lections on contemplating a system of honour
nent, set up by the professed followers of
whole life was a continued scene of poverty
igs, and whose preaching and practice were
culated to inspire all those who embraced
with a sovereign contempt for the things
d! In the reign of Constantine the Church
d; but it evidently appears that the spirit
Christianity was in a great measure ex-
Ecclesiastical history, which had hitherto
horrible and sanguinary scene of the suffer-
Church under Pagan persecutors, then

ORY OF GREECE AND ROME in the present series.

began to display a not less disgusting view of the persecution of Christians by the hand of Christians, carried on with a cruelty little short, in some instances, of that which Pagans had before exercised against them." *

To extinguish, as far as possible, the heresy of Arius, and allay other causes of schism, Constantine convoked the celebrated Council of Nice (325), which consisted of 318 bishops, and other ecclesiastics to the number of 2048. After a session of two months, in which the emperor frequently assisted in person, the opinions of Arius, which went to a denial of the divinity of Christ, were condemned, the equality of the three Persons of the Holy and Undivided Trinity was declared the true doctrine, and, being comprised in a form of belief called the Nicene Creed, was published as the obligatory and only orthodox creed of the Christian Church.†

The deliberations of the Council of Nice failed in their main design, and the Arians, persecuted by the Church, dispersed themselves in distant nations, and there found a safe retreat. This may be viewed as the first great schism in the Church, which henceforth consisted, not in one, but in several distinct societies of believers. To trace minutely the progress of the respective branching-off communions, would lead us considerably beyond our limits; let it suffice to say, that in the fourth and fifth centuries, there were founded several important eastern churches. The Armenian Church dates its commencement from about the year 312. The Egyptian or Coptic Church originated in a heresy in the fourth century; and the Abyssinian Church shortly after branched off from it. The Syrian Church, in a similar manner, gave origin to the Syro-Indian Church, which still exists in Travancore and Cochin, and acknowledges as its head the Patriarch of Antioch. It is likewise to the fourth century that we must trace the origin of that great schism which afterwards divided the Church into the Western or Roman Church, and the Eastern or Greek Church. At this period, the Bishop of Rome occupied the first rank in the episcopal order, and on that account exerted a certain authority over all other bishops within the pale of the orthodox Church. "Constantine, by removing the seat of empire to Byzantium (Constantinople), raised up in the bishop of this new metropolis a formidable rival to the Roman pontiff. Accordingly, in a council held at Constantinople, in the year 381, by the authority of Theodosius the Great, the bishop of that city was, during the absence of the Bishop of Alexandria, and against the consent of the Roman prelate, placed in the first rank after the Bishop of Rome, and

* Bigland's Letters on History.

† The Nicene Creed, after receiving some subsequent additions, stood as follows, and has for ages occupied a place in the Church service:—"I believe in one God, the Father Almighty, Maker of heaven and earth, and of all things visible and invisible; and in one Lord Jesus Christ, the only begotten Son of God, begotten of his Father before all worlds; God of God, Light of Light, Very God of Very God, being of one substance with the Father, by whom all things were made; who for us men, and for our salvation, came down from heaven, and was incarnate by the Holy Ghost of the Virgin Mary, and was made man, and was crucified also for us under Pontius Pilate: He suffered and was buried, and the third day he rose again according to the Scriptures, and ascended into heaven, and sitteth on the right hand of the Father, and he shall come again with glory to judge both the quick and the dead; whose kingdom shall have no end: And I believe in the Holy Ghost, the Lord and Giver of Life, who proceedeth from the Father and the Son, who with the Father and the Son together is worshipped and glorified, who spake by the Prophets: And I believe one Catholic and Apostolic church; I acknowledge one baptism for the remission of sins; and I look for the resurrection of the dead, and the life of the world to come. Amen."

With respect to the form of belief usually called the Apostles' Creed, it is believed to be of much less antiquity than the apostolic age, but there is great obscurity as to its authorship. It also has undergone alterations in the course of time. "The third creed, erroneously ascribed to Athanasius (who assisted at the Council of Nice in 325), is affirmed to have been privately drawn up about the middle of the fourth century; and is rejected by all the Protestant churches except the Anglican."—*Conder's View of all Religions.*

conferred on churchmen naturally introduced evils gross in their nature; and in many respects the alliance with the civil government did infinitely more harm than good. Some writers aver that Christianity could scarcely have survived the dismemberment of the Roman empire and the barbarism that ensued throughout the middle ages, unless fortified by civil power; but this, we humbly submit, is but a timid view of the Christian dispensation, which surely required no such extraneous means of support. It is a lamentable truth, confirmed by every respectable historian, that the proceedings of Constantine (321), and afterwards of Theodosius (390), in establishing Christianity as the religion of the empire, laid the foundation of every species of ecclesiastical abuse, and directly caused the decay of that sublime but simple piety which was the ornament of the apostolic times. It is to the arrangements consequent on the alliance of the Church with the civil power, that we have also to trace the origin of that new feature in ecclesiastical polity, the endowment of churches, cathedrals, abbeys, monasteries, and other institutions, with the functionaries belonging to them. But the most extraordinary change, both in the internal and external character of the Church, was the excess of power which, by the sanction of temporal princes, was accorded to the bishops of Rome. From early times, the occupant of the Roman primacy had been known under the title of *papas*, a Greek word signifying father, and hence the well-known terms, *papal* and *pope*. The pope, aided by his council, formed the head of the hierarchy, and acted as a supreme magistrate in all religious matters whatsoever. From the possession of the spiritual supremacy, a plea was easily found to assume the right of interfering in temporal concerns; and, as is known to the readers of history, the pope was allowed to exercise an almost unquestioned authority over the affairs of Christian princes for several centuries. It is at the same time proper to remark, that the lay and clerical members of the Church did not always agree in conceding this excessive power to the popes; the right of spiritual jurisdiction was not denied, but how far, and in what manner, that of a temporal nature, without the

to go, unhesitatingly and without recou
soever the pope should send them, as
the conversion of pagans and heretics,
of the Church in any other way. This
formidable corps of spiritual combata
a powerful influence throughout Chris
as in heathen countries; but as gen
advanced, they failed in their efforts; in
was abolished by Clement XIV.; and
restored in 1814) they sunk into compa

The many flagrant corruptions of th
to excite the attention of reflecting m
teenth century, and efforts were on
made by them to produce a reform, but
The abuses chiefly complained of were
lives of many of the clergy, particularly
and mendicant orders, the gross superst
generally paid to relics, the extravagan
pope, and the sale of indulgences. Th
religious relics, with the view of excit
believers, had degenerated into a syst
posture. "The poor fragments of mor
bone, or the fragment of a bone, a too
were either mounted or set, according
gold and silver, deposited in costliest sh
workmanship, and enriched with the
gems. Churches soon began to vie wit
the number and variety of these imag
which were sources of real wealth to t
The instruments of our Lord's crucifix
(the spear and the cross having, so it
been miraculously discovered), the clo
was wrapt in infancy, the manger in wh
the vessels in which he converted wat
the marriage feast, the bread which h
last supper, his vesture for which the s
Such was the impudence of Romish fra
were produced of the burning bush, of t
fell in the wilderness, of Moses's rod
honeycomb, of Tobit's fish, of the bless
and of our Saviour's blood!"—(*Southey*

The ludicrous extent to which the ex

om the pulpit he declared indulgences to be the most
lime of God's favours; they had saved more souls
n the efforts of all the Apostles; they would atone
every sin, however heinous; they were effectual in
ard to future, no less than past transgressions; they
ned for the dead no less than the living; and who-
r suffered his relatives to remain in purgatory,
en a little money would release them, was guilty of
worst crime. Hence a blow was struck at all re-
ıtance: contrition of heart was out of the question,
en pardon could be obtained on terms so much easier.
e present recital would perhaps be disbelieved, if its
th were not virtually admitted by contemporary
man Catholics. But good is often educed from evil;
l this preaching of indulgences was one of the chief
ses of the Reformation. There is reason to believe
t the whole system struck Luther with horror
m the very first; and that, coupled with the im-
ty which he had witnessed in the capital of Chris-
dom, it provoked his doubts as to the infallibility
the papal authority. The effects of the indulgences
re every day before his eyes; and, as one of the
thorised confessors of the people of Wittemberg, he
received them more clearly than other men. While
ted in the tribunal of penance, he was amazed to
ar what crimes had been committed, and still more,
t no contrition was felt for them. He refused to
olve, unless the criminals forsook their evil ways.
ey showed him their letters of impunity: no matter;
stimated these at their just value, namely, as so many
ces of waste paper. Being dismissed without abso-
on, and without admission to the sacraments, the
cled purchasers complained to Tetzel, who bellowed
threatened; but Luther was undaunted: he openly
ached against the pernicious traffic; he attacked
very foundation on which it rested; he denied the
er of pope or Church to remit the guilt of sin; and
is famous propositions, as every body knows, rapidly
duced the most gigantic change effected in this world
e the origin of Christianity." *

he preaching of Luther, in exposing the error of
ulgences, and calling in question various traditional
rts and practices, speedily roused a large part of
many; and as no symptom of relenting was shown
he part of those in power, an extensive secession
the Romish Church became unavoidable. The year
1 is to be regarded as the epoch of the Reformation
Germany; and from this period it became a political
well as religious movement—in a word, a movement
favour of civil and religious freedom. In conse-
nce of a general *protest* being signed by the reform-
party against a decree of the Diet of Spires, in 1529,
y received, in 1541, the name of *Protestants*. Eleven
rs earlier, in 1530, a declaration of the principles of
reformers, drawn up by Melancthon, was presented
he Emperor of Germany at a diet held at Augs-
g, and there solemnly read before the assembly;
famous declaration is known in history as the Con-
ion of Augsburg. The Reformation spread from
ntry to country with singular rapidity: the ancient
rch was deposed, and one of a reformed character
blished in its place—in Switzerland and Geneva in
5; in Sweden and Denmark in 1536; in England in
7; and in Scotland in 1560. In Austria, Italy,
m, Portugal, and France, the efforts of the reformers
e less successful, and in these countries the Roman
holic Church has been established, or at least popu-
till the present day.

CONCLUDING SUMMARY.

Christianity now exists, in one or other of its various
s, in all civilised countries, and numbers, as is
ed, 260,000,000, out of 900,000,000, the entire
lation of the globe. Although originating in Asia,
flourishing for some time in the adjacent regions
Northern Africa (Church of Alexandria, for example),
it prevails only to a small extent in these continents, and is principally confined to Europe and the countries which have been peopled by European emigrants. Every where, it is the religion of *civilised man*, no other creed or form of belief being at all suitable to an advanced intelligence, or so directly calculated to inspire sentiments of refined piety, humanity, and justice. In the hands of uninstructed, ambitious, and intolerant men, its history abounds in the most odious crimes; but latterly, as its professors have fallen under the influence of a civilisation to which it has itself largely contributed, and as the true principles of the Gospel have been better understood, our religion has not been outraged by indecent excesses either at home or abroad; while, by the earnest but unostentatious efforts of its supporters, of various denominations, it has been made favourably known in the most remote parts of the earth.

The forms in which Christianity is professed are very numerous, but the whole are comprehended in three leading systems—the Roman Catholic Church, the Eastern Churches, and the Protestant or Reformed Churches.* With a small exception, all acknowledge

* *Roman Catholic Church.*—The doctrines and ritual of this body, as now professed, proximately rest in a great measure on the decisions of the Council of Trent (terminated 1563). According to these decisions, the Romish creed embraces the following points:—An admission of apostolical and ecclesiastical traditions; that the Holy Scriptures form only a part of revelation, and are to be interpreted only according to the sense in which they are held by the Church; that there are seven sacraments, necessary for the salvation of mankind, though not for every one—baptism, confirmation, eucharist, penance, extreme unction, clerical orders, and matrimony; that in the mass there is offered a true, proper, and propitiatory sacrifice for the living and the dead; and that in the holy sacrament of the eucharist, there is really, truly, and substantially, the body and the blood, together with the soul and divinity, of Christ (transubstantiation); that there is a place of purgation, or purgatory, into which souls proceed after death; that the saints, reigning together with Christ, are to be honoured and invoked; that they offer prayers to God for us, and that their relics are to be had in veneration; that the images of Christ, of the Virgin Mary, and also of the other saints, ought to be had and retained, and that due honour and veneration are to be given to them; that the power of indulgences was left by Christ to the Church, and that the use of them is most wholesome to the Christian people; that the Holy Catholic Apostolic Church is the mother of all churches, and that out of the Catholic faith none can be saved. To these principal matters of belief are added—the efficacy of prayers for the dead; auricular confession; celibacy of the clergy; the use of Latin in the public ministrations; signing with the cross; the rosary as an implement of devotion, &c.

The Roman Catholic Church is an episcopacy, or government by a hierarchy of bishops. The supreme control rests in the pope and his council at Rome, and thence radiates a system of management, most complete and effective, over all parts of Christendom. The church includes three distinct orders of clergy—bishops, priests, and deacons; all others, such as cardinals (popes expectant), archbishops, deans, vicars, &c., belonging to one or other of these classes. The church claims the mark of true *apostolicity*, that is, an unbroken line of descent from the Apostles and their divine Master. The ordination of priests is the engrafting of them into this apostolic line of succession. Bishops alone ordain or communicate holy orders. In no church is the ritual of public worship so highly adorned, or rendered more imposing, by the dresses of the officiating priests, the waving of censers, crucifixes, pictures, images, and music. Although celebrated in an unknown tongue, it is observable that the public worship excites the greatest appearance of attention and decorum, as well as all the outward demonstrations of piety. The influencing of the devotional feelings is said to be the object aimed at by the various outward insignia; the church (if we understand the argument) holding it to be of equal consequence whether the heart is touched, and feelings of piety and veneration are excited, by the exhibition of a crucifix or the preaching of a sermon. The Roman Catholic Church, though now only a remnant of its former self, is still the most numerous of the various Christian bodies: it includes within its pale, France, Belgium, Poland, Italy, the Mediterranean islands, Spain, Portugal, the greater part of the people of Austria and Ireland; about a half of the Prussians and Swiss, and the

the doctrine of the Trinity, the fall of man, salvation by the expiatory death of Christ, the resurrection, and a state of final rewards and punishments. Differences on other matters may be traced to two distinct causes of controversy—1. Whether the rule of faith and practice is absolutely confined to the Holy Scriptures, or embraces a traditional revelation, sanctioned by councils and cherished by the Church? 2. And who has the right to interpret the rule of faith —the church or individuals? On the exact tion of these points, rests a complex series which at present appear to be as far from the mutual satisfaction of parties, as they sixteenth century; and we may rationally that, humanly speaking, little or no advance ciliation can be effected, till education has dispersed mists of prejudice, and enabled men to judge of abstract matters more equably.

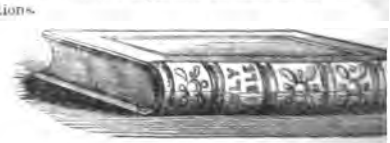
inhabitants of various German states; large numbers in the South American states and Mexico; also a part of the population of the United States, and nearly all the Lower Canadians; and a considerable number of the inhabitants of England and Scotland, besides those of inferior countries. Altogether, the number of Roman Catholics is said to amount to 139,000,000.

The Eastern Church is divided into four leading communions, and several of a subordinate rank:—1. The Constantinopolitan or Orthodox Greek Church, comprising all who acknowledge the supremacy of the Patriarch of Constantinople. 2. The Russian Greek Church, which prevails over Russia, and in virtue of an ordinance of Peter the Great, in 1700, was constituted the national church, having for its head the Russian emperor; it is governed by a council at St Petersburg. 3. The Anti-Byzantine or Monophyte Churches, which have renounced communion both with the Constantinopolitan Church and Church of Rome, and differ from both in doctrine and ritual: these churches include the Syrian, Coptic, Abyssinian, Nestorian, Indo-Syrian, and Armenian Christians. 4. The Greek and other Eastern Churches, including the Maronites in Syria, who are in communion with the Church of Rome. The whole of these Eastern Churches are said to include 62,000,000 of members. Whatever be their peculiar differences, all recognise two sources of doctrine, the Holy Scriptures and Tradition, and are hierarchical episcopates in their form of government. The church service is in Greek. "The rites and ceremonies of the Greek Church are exceedingly numerous, trivial, and burdensome. In all the services, except the communion, prayers and adorations are offered to the Virgin (styled the *Panagia*, all-holy), or to some of the multitudinous saints of the Greek calendar, almost as often as to the Deity. Every day in the year is consecrated to some saint, frequently to more than one; and every day of the week is appropriated in the church service to some peculiar object of adoration."—*Conder*. This church does not resist the circulation of the Scriptures, and its clergy may be married men.

The Protestant Churches are either those which split off from the Church of Rome at the Reformation, or others which have since sprung from the reformed bodies. Protestantism owns two fundamental principles—that the Bible contains the sole rule of faith, and that it is the right of every one, without respect of person, to judge of that rule with all the aids which divine grace, reason, and conscience, can inspire. At the same time, it may be noticed, that in practice each church possesses certain standards of belief to which it is expected its members will adhere. Rejecting traditional revelation, and the decrees of all councils but those of an early date, Protestants admit only two sacraments, baptism and the Lord's supper. They reject transubstantiation and the sacrifice of the mass; deny the lawfulness of monastic vows, the holiness of celibacy, the merit of good works, the virtue of indulgences, the invocation of saints; reject the worship of Images, auricular confession, extreme unction, purgatory, prayers for the dead, and the spiritual authority of the pope. Protestantism exists in three main divisions—Lutherans, Arminians, and Calvinists—each differing from the other in certain points of faith and church government; but there are, besides, innumerable sects which cannot be included in these bodies—as, for example, Quakers, or the Society of Friends, who reject the lawfulness of clerical functionaries, and disapprove of the sacraments and all ordinary forms of public worship—Baptists, who also disown any clerical body, and agree in the necessity for adult baptism—Moravians, a large and unobtrusive body, who, among other good qualities, display extraordinary ardour in the prosecution of missionary labours—Methodists, a very numerous body, chiefly distinguished for the warmth of their piety, the reformation of manners, and the instruction of the young in religious duties by means of Sunday schools—and Unitarians, not a numerous body, who reject the doctrine of the Trinity; sometimes they are called Socinians, from the founders of their sect, Lelio Sozzini, an Italian nobleman who lived at the conclusion of the sixteenth century, and his nephew Faustus Socinus, who died in Poland in 1604. The total number of Protestants of all churches and sects is believed to be about 60,000,000.

Protestantism is professed in two chief forms—Episcopacy, or the government of the church by bishops, whose spiritual authority is derived from the apostles through the efficacy of both before and since the Reformation; and *Presb* rejects a hierarchy of bishops, and admits only the of the church by a body of ministers all equal in rank called *Independents*, or Congregationalists, only church being governed by its own members, on a pr simple model. At the head of the Protestant Episcop may be placed the Church of England, whose doctri tained in the well-known Thirty-Nine Articles and of Common Prayer. The Church of England has denial of the supremacy of the bishop of Rome, and doctrine of purgatory, the doctrines concerning indul pardons, the worship or veneration of images and re vocation of saints, the sacraments of confirmation, orders, matrimony, and extreme unction, transubstanti the sacrifice of the mass. It retains confirmation as ceremonial, ordination to the priestly office, the sign in baptism, burial service, kneeling at the communion, of the sick, the whole hierarchical routine of offices priests, deacons, prebends, archdeacons, rectors, vicar numerous fasts and festivals. In its calendar affixed of Common Prayer, there are retained the names of saints of the middle ages, such as Hilary, Prisc Dunstan, &c. Practically, the church pays no attenti or to most of the authorised fasts, festivals, rigils, &c ing to law, the reigning sovereign, whether a king head of the church, and has the appointment of its bi hold the dignity of spiritual peers, and are members lature. From its strict connexion with the state, the England labours under the misfortune of possessing itself to amend its formularies, which consequently they were in the reign of Edward VI.; yet this great tage is felt to be comparatively unimportant, on acc extraordinary beauty and simplicity of the language of and litanies, as well as the elementary nature of the vi which admits of no alteration by officiating ministers. a number of its clergy have manifested a strong desire many forgotten ante-Reformation usages in the church a circumstance which has given much offence to thos rate views. Both in the United States of America a land there are Episcopal communions deriving orders the Church of England, and having the same forms The Scotch Episcopal communion, in which the bish as ministers of congregations, and which is altogether on the contributions of its adherents, is acknowledged the purest model of the Episcopacy which prevailed ages of the Church.

Presbyterianism is established in Scotland, Holland, of the Swiss Cantons, and exists to a large exten America. Presbyterians generally follow the doctrin Calvin, rejecting the use of crucifixes, the sign of the liturgies, &c., and recognising no saints' days. Chr Easter are recognised by Presbyterians in Holland, those in Scotland. The clergy, being equal in ra verned by provincial and general courts, constituted own body. Scotland possesses a numerous body of P dissenters or seceders from the establishment; and these have added to former causes of difference, by their hostility to all connexion between Church and that Christianity, as was the case prior to the stantine, should be entirely independent of civil p and its ministers supported exclusively by voluntar tions.



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ES OF LIFE.

tibility of human nature; but we understand this,
f human nature can be made to know wherein its
est good consists, it may be presumed that this
will be sought and obtained. Man was created on
rinciple, he acts on this principle, although he is
o frequently to make the most deplorable and dis-
ng mistakes. If it be not admitted that mankind
lways strive to obtain whatsoever seems to them
and strive to avoid whatsoever seems to them evil,
moral teaching is in vain. If this principle be
tal, the sole inquiry is—what is good? and what
?

INFANCY.

ry human being comes into the world with phy-
and intellectual qualities, propensities, and apti-
, which distinguish him as much from all other
, as he differs from them in figure and appear-
As society is a consequence of the Creator's will,
proper divisions of labour are a necessary con-
ce of society, it is not irrational to suppose that
iduals are born with adaptation to labour in some
ments, and not in others. In the early stages of
hese qualities are sometimes developed, whether
happen to be understood or not. But almost im-
ely after gaining some hold on life, all human
become subject to the incidents which tend to
hen original qualities, or to obscure or stop their
ss, and even to suppress them, and engraft on
riginal stock those which are entirely different.
uld be unjust to make infancy responsible for the
nd errors which arise in this manner; but cer-
those who have the guidance of infancy are re-
ible, and will be held to be so. Children have a
to complain, and society has a right to complain,
ies to children be neglected; and, it is needless
nark, there is another and inevitable accountabi-
a far more serious character. We shall have
on to remark on the very sober duties of those,
according to the order of natural and necessary
re intrusted with forming and giving effect to
l qualities. This matter properly belongs to
r place.

YOUTH.

come now to a period when accountability begins,
the relations which were placed in the division of
. If it be asked at what age this is to be fixed,
swer, that the good sense of judicial law recog-
that a child may be a witness in solemn judicial
edings, when inquiries addressed to him are so
ted as to make it certain that he understands the
e and the obligation of an oath. This may be at
s of ten or twelve years. But the perception of
and wrong, and the sense of duty, begin at an
r age. There certainly are children of the age

of eight years who have a very clear sense of moral propriety; and very many who, between that age and twelve, can discern and reason on right and wrong, and arrive at a very sound judgment. We shall presume that all into whose hands this sheet may fall, will be fully capable of comprehending its purpose, and of judging of its fitness to be useful to them. We must assume, then, that we are speaking to those who are willing to be instructed in serious things, and that they will not reject instruction from any source, however unpretending it may be, if it come to them in a manner which they can reconcile with their own reason, and with their own duty to themselves. Young persons think that they can see for themselves, and that they need not to be told what others have seen. But let us reduce this to common sense. Suppose a person to be under the necessity of going from the place in which he has lived, and which is familiar to him, to a far distant place. Let it be supposed that the road he must travel is crossed by many roads, and that he is frequently to find himself at points where several roads are seen, either one of which, so far as he can discern, may be the right one. Will it be of use to him to have been told, before he departs, which of these many roads to take? Will it help him onward to his destination, when he is bewildered, and unable to decide for himself, to find some one who can assure him of the right course? Life is a journey. Every step we take in it brings us to something new, something unexpected, and perhaps entirely different from that which was looked for. Those who have gone through it before us, have left us their instructions in what manner it is to be undertaken and accomplished. They tell us of their own troubles and difficulties; they warn us how to avoid the like in our own journey. Which is wisest—to listen to them, and weigh the worth of their warning, or to push on heedlessly, and take the consequences?

HEALTH.

We suppose that every child of the ages last spoken of, can form some opinion of the value of health. Most of them have suffered, more or less, by that time. They are now old enough to consider the purposes for which life has been given to them. They then feel that the purpose is to be pleased and gratified; to want and to have; and that restraint is disagreeable. But let them remember that life is a whole; that though all of them will not, yet some of them will, attain to its longest duration, and that it is wholly uncertain to whom that lot will fall. Long life may depend, and often does depend, on what children do, or omit, at an early age. Among the first gratifications which are looked for at this period, is the indulgence of the appetite for food. Here comes in a rigid law of the Creator. It cannot be broken without consequent suffering, nor repeatedly broken without impairing, and perhaps destroying, the material frame which has been described as so fearfully and wonderfully made. To require of that delicate machinery, on which the action of life depends, that which it is not qualified to do, and which it cannot do—to force it to do that which is offensive to it—and to make this requisition habitually—is a sin against natural law. Its punishments are well known. The restless sleep, the heavy head, the many sensations of uneasiness, the positive pain, the disgusting remedies, are the punishments which follow. They are not all. Nature loses its charms, companions their interest, duties become irksome, the mind hates its labour, penalties are incurred, parents or teachers are regarded with displeasure. These are the fruits of momentary gratification of the appetites. On the other hand, there is a law of nature that food shall be grateful. It is required to supply the daily waste—to continue life. If there were not a craving want, we should take food as a mere necessary duty. It is kindly made to be a pleasure, and, like every other pleasure, it is to be used, and not abused. Thus, by ignorant or wilful pursuit of pleasure, we violate a law which brings with its just punishment not only the loss of the like pleasure for a time to come, but also pain and suffering from indi[gestion] remedies. When children are sick, they are [objects] of tenderness and pity; but in most instan[ces] rather deserve to be punished, for they have [broken] a law wilfully, since they have disregarded [the] experience. As to kinds of food, nature is a[lso] sonably nice about this: that which it comp[rehends] quantity.

CLEANLINESS.

This is not a mere matter of decency. It [is] the positive commands arising from the [whole] order of things. Be it remembered, that ev[ery] that lives, vegetable or animal, is wasting whi[le it] tinues; and that all which is sent forth thr[ough] millions of openings by the skin, has run its r[ound] is lifeless; and that more than half of all the f[luid] comes forth in this manner. If perspiration, [which] and insensible, be permitted to rest on the [body] stop the way of that which is coming, nature is [at] and will show that she is so. Such neglect is o[ne of] causes of disease. This fact was probably w[ell] to eastern nations, since it was part of their [religious] duty to cleanse the skin. These nations were [the] of the modern comfort of wearing a garment [next] skin which can be frequently changed. The [use] of this comfort was one of the causes of those [loathsome] diseases of which we read, and which are now [unknown] among Christian nations. There are classes of [men] and mechanics, whose health would be preser[ved] their lives prolonged, if they knew how much [depends] on periodical cleansing. It may be said that [there is] a connexion between cleanliness and moral [purity]. Perhaps it may be going too far to say, that th[ose who] habitually disregard cleanliness, and prefer to [be] have no moral perception; but it may be truly s[aid] those who are morally sensitive are the more [scrupulous] respecting this virtue. There is a close affi[nity] tween moral depravity and physical degradation. [The] vicious poor are always shockingly filthy: the de[bauched] rich are visited by worse penalties: they ma[y have] clean garments; but what can wash away the [stains] ties which vice has made part of themselves? [Not] for one's self only that the virtue of cleanlin[ess] mends itself. Every one comes within the obse[rvation] of others. However uncleanly one may be him[self] is not the less offended at the like neglect in thos[e] he observes. Now, it is every one's duty to hi[mself] recommend himself to others, so far as he ina[smuch] and reasonably can, and to obtain their respect. [Rich] and costly garments may fall very short of dis[guising] if it be seen that they are a covering for the v[iolation] this important law. If there be a lovely objec[t] human eye, it is a clean, clear-faced, healthy, [and] neatly-clad, happy child. There are few child[ren] may not, if they will, be neatly dressed, for th[is] not depend on that of which the dress is made. [There] are fewer who may not have a clear skin, and [a] look, if they are properly fed, and sleep in p[ure] There are none who may not have a clean skin. [I] speak to those who are old enough to judge fo[r] selves. And let it be added, for their inducem[ent] in obeying the command to be clean, they are p[er]ing a moral duty; in neglecting it, they are inf[lict]evil on themselves in two ways—first, in dim[inish] their own comfort; second, in losing the es[teem] others.

AIR.

Among the generally unknown causes of loss o[f] is the respiration of impure air. The congre[gation] many persons in one apartment, especially wh[en] ficial light, in great quantity, is permitted, is a [fruitful] more maladies than is commonly supposed. [Various] causes, in such case, combine to destroy the f[itness] the air for respiration—the animal heat of the [body], the lights, and the breathing of the same air a[gain] again. There must be such assemblies. The [remedy] is proper ventilation. The smoke of lamps

h belongs to it, and that also which belonged
r and in another season of life.
nust innocently say his time is his own, and
may dispose of it as he pleases. His time is
It is given to him in trust. Like other trus-
will be held to an account, in which there is no
of concealment, and where nothing will de-
proof. It may be supposed that it will be said
here was confided to your use a term of time;
, or could know, the laws prescribed to you
ming your trust: are you come from that trust
an account of it, burdened with reproach from
conscience, and with marks of guilt which you
de? or, are you come without any advance-
he knowledge of your duties, and with no other
han that your days rolled by in childish par-
idle amusement, as *when* when you were
rom the world than when you left the cradle of
or, are you come with the exalted acquirements
u might have, and with that innocence and
hich you would have, if you had read the laws
reated world, and those which have been re-
d placed before your eyes? Where have you
these laws, that no duties to yourself, and to
ociates, nor to the *Lawgiver*, were enjoined
u! Have you not been told by every breath
, by every movement of your frame, by every
of your immortal mind, by every just pleasure
have had, by every pang that you have suffered,
ll that you have been made capable of perceiv-
learning, that there were laws prescribed to
our trust, and that an account of your stewards
ld be exacted from you by a Judge who cannot
ved!

SELF-LOVE.

n invariable law of nature, that every human
all do those acts which he thinks will secure
him, and that he shall avoid those acts which
ason evil to him. Why, then, should not every
any and every act in his power by which his
l may be gratified, and avoid doing any and
et which is disagreeable to him? The only
that can be given to this question is, that man
agent, intrusted with the power, and charged
duty, of ascertaining for himself what is good
t is evil; and that this power and duty extend
with whom he dwells in society, and also to his

ren always conform to the natural impulse of
, until they learn from the discipline which is
to them, that they cannot have their own will
subjecting themselves to a suffering, the dread
controls the natural impulse. They learn, after
that the greater good lies in giving up what
ll to do, and doing what is required of them,
than to meet the certain consequences. We
at the whole science of morals will be found in
ciples contained in the truth above stated.
ove is just as strong throughout life as it is in
od. It is that quality of our nature to which
dience may be referred; but it is also that to
ll unworthiness may be referred. As the dread
shment, or an unwillingness to displease those
kindness a child desires, will restrain him, or
into action; so, in more advanced life, the dread
ring a certain or probable evil, and the certainty
g the good will of others, will restrain or impel
With those whose minds have been properly
ned, and who have learned to comprehend their
to the Creator, there is a far higher motive,
s founded in a submission to the Creator's laws.
goes on in life, he may or may not acquire more
re clear and just perceptions of what will be the
t good to himself, and how he can obtain it. It
f-evident proposition, that if a person could ex-
know what it would be best for him to do, or ask
in relation to all things and persons, and under
rcumstances, and if he should conform to thi

knowledge, he would best obey the impulse of self-love, and most exactly conform to the laws prescribed for his good.

It cannot be too often impressed upon the youthful mind, that *life is to be taken as a whole:* for if this extended view be not taken, it must frequently happen that it will seem right in certain circumstances, and when the view is limited to these circumstances, that certain acts may be done or avoided as the greatest good. Yet, if the consequences could be foreseen, they would disclose that this seeming good would turn out to be a positive evil. It often seems good to the young to avoid the performance of labours which are assigned to them, and to spend in amusement the time which should be devoted to fit them for duties which will be incident to their future condition. This misapprehension of good is to be lamented; but with some this is not all. Their own self-love prompts them to engage in a course of folly, so that not only do they fail to obtain that which is real good, but they find, under the mask of pleasure, that which proves to them to be the most grievous suffering.

The same truth runs, in an endless variety of forms, into manhood, and through all the stages of life. We are impelled by self-love not only to provide for the craving wants of our nature, but to seek pleasure, riches, power, distinction, and luxuries. These propensities are given for wise and beneficent purposes. It is the misapplication of them, as seen in the world, which constitutes human misery. He is called brave and honourable who defends himself, even at the risk of life, against those who would do to him that injustice and wrong which would make the gift of life of no value. But the brave, who invade the rights of others, and subject them, by violence, to losses and to sufferings, without cause, misapply this principle of action. To get riches by honest industry, or the reasonable exercise of one's talents, is a commendable use of self-love. To get riches by unfair and dishonest means, to hoard them up, and to brood over them in secret, is a pitiful misuse of this commendable impulse. To have power over one's fellow-men, and to use it faithfully, and for their benefit, is a relation which one may honestly and commendably desire, as a reasonable exercise of self-love. To seek such power by deceitful representations, and to obtain it by violence and fraud, and to use it for purposes of supposed self-benefit, and to the injury and oppression of others, is another form of self-love. But there are few, if any cases, in the history of mankind, in which self-love has appeared in the latter form, without eventually overwhelming the agent with disappointment and sorrow. It is true that for a time such an one may seem to flourish in his schemes, and command the applauses of those who look up to him in his apparently fortunate elevation; but, in the very nature of things, if his heart could be sounded, there is no one whom he looks down upon, who is not more at ease than himself. His day of humiliation may be at hand, in the course of events which he cannot control; and if not, he learns, when it is too late to correct his error, that he has misapplied the impulse of self-love. This misapplication is to be seen in many cases of daily occurrence, and in things of little, as well as in those of comparatively great, importance. The principle is every where the same.

We shall be answered, perhaps, that all this is incident to human nature. There is no help, it is said, for these evils. Every boy who has learned Latin repeats the maxim, *Humanum est errare* (It is human to err). A more mischievous maxim was never invented. If men understood, as most certainly they may do, that they need not err, and that it is best for them they should not, they would rather adopt as a maxim that none but the wilfully ignorant, and the wilfully foolish, *err*. Such a state of things is yet afar off. It may *seem* to be foolish, indeed, to assert that any society *should* ever come to be so well informed as to make a *proper* use of self-love. Let us not despair. We may *improve* very slowly; yet, if every one does even the little that he can, in showing, by precept and what things a rational and accountable desire, and what he should avoid and reject, the time may come when self-love will misapplied as to be necessarily followed by and sorrow.

Will it be denied that there is a certain of action for every human being, in every dition in which he may find himself? Or, the proportion of human suffering arises from discerned that it was best, in past circum have acted differently, or not to have acted that whether one did or did not act, in the case, that his motive was to secure to h greatest good of which that case was suppose If these things cannot be denied, then the g life is so to regulate self-love as that it may greatest good. Let us suppose that every society knew what it would be best for him to to do, so that his physical, intellectual, and dition, should be as good as he could make it love would never be directed to any end wh impair his bodily powers, or keep his mind in or misinformed, or make him a subject of re contempt in his own view, or in that of othe it will be said, is an impossible state of thi was said that it would be impossible to root o of *ardent spirits*. This great change is not complished; but does any one doubt that gre has been made towards its entire abolition! on, then, in the work of improvement. Let try to show the proper uses of self-love. Th come when every one will admit that all the which may visit the human family are of making, those only excepted which arise from ral laws of the Creator. As to those, they greatly mitigated by intelligent moral agency these come, they can and will be endured and resignation, if the sufferer can console him the certainty that he has done no wrong neglected any proper one, to which the suffer sufferings may be referred.

LABOUR.

It is commonly considered that labour is declared to mankind, as a consequence of the sion of the *first man*. It is foreign to our pu enter into any discussion as to the true meanin historical or allegorical account; the Christia tion may not be dependent on a literal under of it. However this may be regarded under the of further reasonable research, we must take he is; and so considering him, labour is not a *pleasure*. Is it a curse to man, as he now enabled *by labour* to comprehend the existen Deity, and the beauty and utility of his works! the earth and bring its productive power int to apply the material substances of the earth able use, convenience, and ornament! to ex improve the human mind! to cultivate and s the moral power? Certainly these are the labour; and labour so applied constitutes man happiness.

There are two kinds of labour:—1. Me labour; 2. Labour of the mind. These two times necessarily combined. The mind and demand some sort of employment. No one w is free from natural defect can prevent its a will think of something, good or evil, profitable Every one who attends to the operations o mind, must be convinced that this is so. The limbs cannot be kept in any one position for siderable space of time, unless they have been and demand repose. If it were painful to u the action of the mind to useful labour, and distressing or inconvenient to us to exercise cles for purposes which we believe to be prop might be that labour is a curse; but many who require of the mind to perform its duti

ose, and especially those who have disci-
ıind to an accustomed service, find that the
:mployment is an affliction. We cannot see
ɔuld be otherwise, if we rightly comprehend
on to the universe, of which he constitutes
part.

lily action, it is seen that children in their
hrough a series of exertions, often exceed-
t too, from mere pleasure. Men frequently
e body much more severely in matters of
than they have any occasion to do in neces-
. This action seems to be a dictate of nature.
ases of indisposition, bodily motion is the
remedy, and is commonly a successful one.
ound reasons why this should be so. There
rsal action of the material system to which
s, and a continual waste and demand for
xcepting only in the involuntary movements
ructure, which are not confided to his care,
ed to aid nature in her operations. If he
himself in the best condition to receive and
sure from his daily food, he must keep him-
n. Those who have the least pleasure in
was given to be used as the means of plea-
senses, are those who keep the body inactive.
: of those who labour with the mind only;
ingly true of those whom affluence excuses
r of body and mind. They seek happiness
e and in luxury. They find it not, because
: a law of nature. No product of the vine-
eld, or the sea, however aided by inventive
nish a welcome repast to one who sits in list-
s, on a downy cushion, from breakfast time
The day-labourer who sits down to his coarse
pleasure to which the luxurious idler is a
The one receives a rational benefit from the
ist bounty of nature; the other seeks it where
decreed that it shall not be found.

ur of muscular action is not only in itself a
ut it is the means prescribed to us for the
it of subsistence; for the gradual improve-
ɔciety; for applying natural and artificial
) our comforts, to our convenience, and to
luxuries. Nor only so: this is the ground-
the beautiful and imitative arts; of the dis-
application of the chemical power of matter;
derful contrivances by which man securely
he face of the ocean; by which he cultivates
itance with the stars, and raises his thoughts
hor of all being. Let us not, then, regard
curse, but a blessing, and rank it among the
es for thankfulness. It is obvious that mus-
n would have been given to us in vain, if it
irected by intelligence. There must, then,
of the mind. This is nowhere said to be a
there be any thing for which we should be
ıankful, certainly it is that we are blessed
ɔwer of mental exertion. This labour is in
rce of happiness; and in its fruits has made,
age man, a rational and improving social
ie most restless and comfortless of all crea-
who has no occupation for his mind. If one
nt the most miserable condition for a human
r than mere physical suffering of the most
ıg kind that can be without extinguishing life,
: to deprive him of all employment of body
d.

:e be a doubt that, in man's present condi-
ɔility to labour is his exalted privilege? And
ccountable for this privilege? Is not reason
rect him in the use of it? It is well known
ıo have compared the condition of mankind
t ages, how much the labour of body and
been able to accomplish. Even within the
entury, the most surprising changes for the
e taken place, from the right use of this pro-
wer. On this depends the condition of the
ıily. From the joint labours of all who wish
ir fellow-men, there will be obtained, eventu-

ally, the knowledge of the best manner of using the products of the earth, the best mode of ruling men in their social relations, the just homage due to the Creator, and the true purpose for which human life has been given.

To some descriptions of persons, labour is irksome. They are obliged, in their vocations, to use certain muscles, and those only. They repeat the same act throughout the day. Their labour becomes tedious, because it requires little or no action of the mind. To this numerous class we venture to offer a relief which is within the easy reach of many of them. It is well known that the nature of habit is such, that the hands will do what they have been accustomed to do, without any obvious attention, and the mind is left to do what it will. The mind might be employed, while the hands are busy, in pursuing some connected train of thought. Muscular action, so far from being an interruption to the action of the mind, may be made to assist it. Persons who think intently are often seen to have some habitual movement; and we have heard several persons acknowledge that their best ideas had come to them when they were engaged in some simple occasional duty, such as the folding of paper, or the cutting of the leaves of a book. The stir of body seems to produce a corresponding stir of mind. The relief which we suggest is, that sedentary labourers should provide themselves with subjects for reflection, and exact of their minds to attend to these subjects. By such simple means, the memory may be strengthened, the stock of knowledge may be greatly increased, and the mind surprisingly invigorated. One might begin this exercise by attempting to remember, with the utmost precision, every act done during the preceding day, and so go back from day to day. Better still would it be, if the purpose were to see wherein one had not done as well as he might, and as he may wish he had done. This exercise may be applied, also, to the contemplation of subjects suggested by reading; and this contemplation will raise questions which will lead to the examination of books. There may be hundreds of poets, philosophers, and moralists, at the work-benches in this country, who have no thought, of themselves, that they are such. It is in the power of any person who can read and understand the English language, to strengthen his memory, give himself an interesting employment, and furnish himself with a rich fund of the truest philosophy, in this manner. He may commit to memory six lines, each successive day, of Pope's Essay on Man, and on each day repeat all he had learned on preceding days. On the 218th day he would be able to repeat the whole essay. This might be done without losing one moment of time, and without making the slightest error in one's work. When accomplished, it would be an intellectual treasure for which any man might be thankful, and of which he might be justly proud. The first efforts may be discouraging, but perseverance will ensure success. Every one who is accustomed to thinking can attest that most new subjects are at first confused and undefined; but they gradually disclose themselves, and fall into shape and order, just as material substances, used on the work-bench and the anvil, take that form, smoothness, and polish, by successive operations, which the workman requires.

HABIT.

This quality of our nature has engaged the attention of many philosophic minds. It has been considered an *ultimate fact*, as it is called; that is, one of those qualities, which, like respiration, digestion, and many others, are found to exist; and beyond which fact no investigation can be made. Its laws, rather than its nature, have been the subject of remark. It may be, that habit is to be referred to the law of action, which appears to pervade all material and intellectual being. Life is divided into parts; in one we are awake, and active; in the other, wrapped in sleep, and quiet. Each successive day is a sort of new existence, in which we are to repeat many of the acts of the preceding day. We

cannot go, that those acts are most easily and well done which are oftenest done. One who uses a flail, an axe, a scythe, a sword, or a pen, can use either the better the oftener it is used, until he arrives at a point of excellence at which his power of improvement stops. This may perhaps be accounted for by supposing that the first effort which the mind makes to direct muscular action, is the most difficult one. After repeated efforts, the mind seems to understand better and better how to direct, and the muscles how to obey, till at length a very slight effort of the mind seems to be all that is required, and even an effort so inconsiderable and rapid as not to be the subject of notice. On this truth seems to depend the astonishing facility of action to which (among many other instances) jugglers and musicians attain. This is called *habit*, which word is derived from a Latin word which signifies custom or use. There are customs or habits of the mind as well as of the muscles. Persons who accustom themselves to extemporaneous speaking, acquire a surprising ease and readiness in the complicated action of conceiving, uttering, and expressing, by sounds, by looks, and gestures, whatsoever they would impress upon an audience. The mind has its own habits also, in the quiet of contemplation, and in exercising its various powers. It has its own associations, too, with external objects, of which many curious instances are stated in philosophical works.

The moral deduction which we make from these general principles is this, that there is a continual craving to do some act, to obtain some object; or a continually recurring necessity to do some act, to prevent an evil or inconvenience. The frequency of this call upon us to do something, whether it be for eventual good or evil, leads to the practice, custom, or habit of doing; and in some cases the impulse to act becomes so powerful, that reason, self-respect, the laws of society, and even those of the Lawgiver of the universe (if these are heeded), present no sufficient barrier to the impulse. It is to this all-important truth in the nature of man, that we earnestly invite the attention of the young. The capacity to create habits is the consequence of the power given to us to promote our own welfare, indivi-

and character, from abusing the pr
nourishment, is universally condemn
motive, and the acts done in obedien
are irrational and disgraceful.

There are two kinds of intemperan
the young should be warned. The on
for nourishment, but for pleasure; th
tobacco. It has been already demonst
requires a certain quantity of proper
a healthy and happy condition of body
that excess of any kind will be follow
This is just as certain as that a full ve
off just as much as is added to its con
natural that young persons should a
sake of society; being assembled, they
employment for the muscles of the body
of the mind. We have shown that a
spring from natural constitution, and
be satisfied. There must be a comm
in the meeting. That may be found
action in which all can join, and whic
nite object, as athletic games; or it
some intellectual employment which i
present. Unhappily, the most freque
meetings is *to drink*, for in this all can j
by this common attraction, the min
action; but for what purposes! Tho
places of public entertainment can answ
Some who are sent to public seminaries
it; and some can answer it who kno
maintained *there* by pinching economy
others could answer it, who never had a
why such places were established, no
they were intended.

We refer again to the demonstr
made, that the law of nature, which c
with impunity, inexorably admits so
more. Let us, then, look in upon a
young persons, around a table, and h
tobacco smoke. What sort of air are
what sort of substances are they ca
physical system, already bursting wi

OF LIFE.

Will not the seeds you are now sowing come up
spans of time? Will they come up in the form
ebled muscles, chronic aches, self-reproaching
s, the loss of the capacity to enjoy the bounties
nties of creation? Will they grow up to over-
your moral sense, and shut out the delights of
tual power? Was life given to you for the few
which you can sing, drink, and "enjoy yourself,"
you may enjoy life in every stage of it, as a
l being, and by rendering your homage to nature
ing her laws, and your gratitude to Him who
d these laws for your happiness? Do you not
reward yourself to be at some time a parent?
our own parents ever so conducted themselves
you, that you have a right to punish and afflict
Are you willing that your parents should see
know you as you know yourself? If you should
rent, are you willing that your children should
with whom, and in what manner, you "enjoy
f?" Would you tell them how you spent your
l days and nights, and recommend to them to
urself as an example?

TRUTH AND FALSEHOOD.

e two subjects relate to two parties; 1. That
n speaks truth or falsehood; 2. That one to
it is spoken. We propose to consider this
nly in relation to the first party, and as to him
views. 1. Whether there be any, and what
ich requires that the truth should be spoken;
What good or evil one may do to himself by

ne reason why truth should be spoken is, that
owledge which any one person can have from
of his own senses, in many things which it
aterially concerns him to know, is very limited.
st therefore often depend for his knowledge on
thers say to him; and when the thing spoken
xclusively known to the party speaking, the
ust rely entirely on what he says. If, there-
be considered how great a part of the most
concerns in life proceed on declarations made by
son to another, we may readily conceive, that,
could not be relied on, the affairs of mankind
e greatly embarrassed, and confidence in each
ould be destroyed. As this matter of speaking
th is one which concerns all persons, so all per-
gree in holding liars in contempt. Even the
west persons consider themselves to be disgraced
harged with the guilt of lying. They can endure
which would subject them to public punishment,
ore composure than they can endure this. A lie
ys understood to be resorted to to secure some
ge or prevent some evil to the person who
to it; or to occasion some disadvantage or
to the person to whom, or of whom, the lie is
ometimes both these purposes concur. The
n view is always an immoral one, and the means
e always regarded as disgraceful. It is at once
that wilful falsehood is forbidden by natural
hich is intended to regulate our social relations,
expressly forbidden by divine law, which con-
all acts of fraud and deceit, and commands us
others as we would have them to do to us.
is a rare occurrence that any one who descends
hood succeeds in the object which he may have
. He is commonly detected, and, if not, is sus-
which may operate quite as much to his disad-
. If he should escape detection and suspicion, he
constant fear of both. He has a very troublesome
to keep. If he should be able to do this, still he
hide it from himself that he is a liar; and such
n, by natural justice, is compelled to pass that
e upon himself, which he knows that others
pass upon him if they were as well informed as
A liar is therefore obliged to feel like a gallow
, and a habitual liar very soon comes to look
. If there be no higher motive than one's own
t and welfare in speaking the truth and avoiding

falsehood, this is a very sufficient one. If a man is known to be a person unworthy of confidence when he speaks, he has not the benefit of being credited even when he speaks the truth; he voluntarily deprives himself of the advantages of social life; his assertions secure to him no credit; his promises are contemned; he makes himself to be alone in the very bosom of society, for every one shuns him. In the administration of justice in courts, a person is not regarded as a witness, whose common reputation is that he is not believed when he speaks. The objection to him is not that he might not tell the truth in the matter which is on trial, but that such a person ought not to be received as a witness, because he cannot be credited in any thing that he says. When such a person has been called and examined as a witness, it is usual to examine other witnesses to prove his character; and if it be proved that he is unworthy of credit, what he has sworn to is disregarded, though he may have declared the truth. This is the common fate of all such unfortunate persons in society, as well as in courts. Independently of the criminality, lying is very poor policy. If the object be to obtain a supposed good, it rarely is obtained by such means; and if it be, the price so paid must always be greater than the good is worth. If the object be to conceal a wrong done, it is rarely successful; and if not, it leaves the offender without excuse for his error, and adds another wrong. If the object be to charge an innocent person with a wrongful act, or to deprive one of his good name, or of some lawful possession, or subject him to some evil which he ought not to endure, the offence is of that cast which the law of the land holds to be *malicious*, and it deals with such offence accordingly. In short, it is very difficult to violate any law of natural justice or divine prohibition without encountering an adequate punishment; and it may be assumed that the punishment which follows lying is as certain and just as in any instance of criminality. If every tenant of every prison, and if every person who is in the custody of a goading conscience, were asked this question, *What was your first step from innocence and purity?* he would probably answer, *Telling a lie!*

SINCERITY AND INSINCERITY.

These are other names for truth and falsehood. They are not commonly applied to the most serious concerns of human life, but to what are called the "imperfect obligations." Such obligations, it is well known, are not enforced by the law of the land, but are binding as duties arising as well from natural law (reasonably expounded) as from divine law. Sincerity is a duty to one's self, because it is demanded by self-respect. As every one has an individual separate physical being, so every one has a *separate circle* within which he exists, and into which no one has a right to intrude. His thoughts, motives, opinions, and policy, are his own. What he will or will not do (so that no wrong be done to others, and no act of duty be withheld from them) is for him to decide upon. Within this circle, he makes up his judgments on all persons and things. In his outward deportment, he must frequently act in a manner not consistent with these judgments. As an example: one has made up, from repeated observations of a certain individual, a very clear but very unfavourable judgment of his qualities; but there is no occasion to disclose what the judgment is. The observer is obliged, or finds it convenient, to meet this individual, and to deal with him, and perhaps to interchange courtesies with him. It is undoubtedly proper to manifest the respect, in such case, which the decencies of life require, and to show the common proofs of good will. There is no insincerity in this. Though no one can possibly avoid forming judgments of others, nor avoid liking or disliking them, even including very near friends and relatives, yet there may be a positive violation of duty in publishing these judgments or in disclosing these feelings. The Divine law, "judge not that ye be not judged," does not, it is believed, interdict these judgments, because they cannot but be made; but it forbids the wanton, unnecessary, and

publication or manifestation of them. Thes
keen observers of their fellow-men, see in th
in their manners, in their modes of speaking
tones of voice, in the sentiments which they
&c., causes for respect, esteem, confidence, a
bation; or they may see causes for disrespect,
strong disapprobation, and disgust. But all th
belong to the *individual circle*. It is not in
keep them there. On the contrary, society
intolerable if they were not kept there; i
hazardous to the observer to let them out unre
He may be mistaken both as to the favour
unfavourable judgments which he forms.
observation, new circumstances, unexpected
may essentially correct his judgment; and, t
a prudent man will keep them to himself: the
own peculiar property, and were obtained for
use. Insincerity is often demonstrated by pay
and silly compliments, which assume the form
tery—a word which is derived from the Latin,
nifies wind, breath, puff. This is a kind of adu
perverted self-love finds to be exceedingly
Although it is in truth precisely what its or
cates, there is hardly a man, woman, or chil
not disposed to partake of it, if it be artfully
But, on the other hand, all sensible persons, of
age or sex, who see what it is, and why offered
the flatterer the contempt which he deserv
insincerity is, and ought to be, deemed a high
It implies art and deceit in the flatterer, and
weakness in the flattered, to be subdued to the
in view. The flatterer's purpose may be to
himself no more than a better esteem than he
any pretence to, and it may be, through that,
to himself something which may be very cos
victim.

CIVILITY.

The well-being of society would be greatly p
if the nature and use of this Christian virtue w
generally known. We take this to be, in per
tercourse, the observance of the command, Do
as you would that others should do to you. T
rapid glance at any community shows this—th
of its members are brought into contact, in m
business, necessarily; others meet, incidenta
have no particular connexion; others meet f
purposes, in various forms; and that there i
proportion who know of each other very little
the fact that they are of the same country, and
not even that. There must be a *best rule* in
ment for all these classes; and no one will d
if this rule were defined, and faithfully appli
would be much more of everyday comfort a
placency in the world than there is well know
If we rightly understand the meaning of civil
the manifestation of kind feelings, and of a des
all things which are to be done under the infl
such feelings, in a becoming and agreeable ma

If every person understood the true foun
society, the common origin of all its membe
natural and necessary sympathies, their comm
interests, their necessary action upon and w
other, it might be supposed that all who are re
would be civil. They would be so, because th
promote their own good, because they would
what it is proper to do to promote the good o
and because they would know, that in so do
would conform to the design of their creation.
not include under the term *civility* the great
justice, acts of munificence, important perso
vices. These arise out of some special relatio
an individual bears to one or more other ind
It seems to be limited to the manner in which
mon or accidental intercourse of the member
ciety in general should be carried on. This ma
be better understood by some examples. The
comes into the presence of another as a beggar,

›urer, mechanic, trader, merchant, farmer, lawyer, ›ician, clergyman, or public officer, or if it be a ›ale, or child of either sex, there may be very various ›des of receiving these different persons—yet, cer›ly, by every one of the laws which we are endea›ring to illustrate, these several persons are entitled ›ivility. Even the beggar—perhaps one should rather ›, the beggar in particular—if not deformed by volun›y transgression, should be received with civility; that ›gentleness, kindness, decorum, are to be observed ›tively to each one. Why? because no man can ›rd to be deemed insensible to the cause of reason› humanity; nor a stranger to the decencies of life; ' ignorant of what is due from him, nor to him, in ' of his proper relations.

›here is one other consideration which operates on ›men who have had much experience in the world. › and things change, and take new and unexpected ›tions. Persons who have been long, and even inti››ly connected, suddenly or gradually sever; persons have known little of each other, and that little ›teresting or unfavourable, are brought in contact one unexpected turn of affairs. Sometimes one › favours, or at least good will, from those he never ght to be of the least importance to him. In such, in a multitude of other circumstances, one may the advantages of having been acquainted with the ›e of civility, which implies that one has given no ›cessary offence. There are other cases in which is called on by duty to do things disagreeable to elf, and exceedingly so to others. But there is no sense in performing such duty morosely, and with ›nanity.

POLITENESS—GOOD MANNERS.

›refined species of civility is sometimes expressed ›e term *politeness*, which is an exterior indication ››od breeding or good manners, and may be defined ›hat mode of behaviour, which not only gives no ›ce, but which affords agreeable sensations to our ›w-creatures. In our intercourse with the world, species of civility is imperative. We possess no ›t to give offence, by language or actions, to others; ›we are bound to conduct ourselves agreeable to ›reasonable and set rules of society. Some severe ›ers on morals have confounded *politeness* with *in›rity*. They seem to imagine that the act of speak›gracefully to another, is necessarily mere grimace, ›n empty flourish signifying nothing. In many in›ces, with insincere people, this may be the case, ›it is not so with those of well-regulated minds. It ›ways better to speak politely, that is, with extreme ›riety and delicacy, than coarsely, sulkily, or im››nently. We say, cultivate politeness of manner ›ll means, for it is *refined civility*, and will spare › ourselves and others much unnecessary pain. ›ivilised society has in the course of time instituted ›in rules in the code of politeness, which, though of › actual value, it is every one's duty to learn, be››e, by knowing and acting upon them, we can make ›glide on much more smoothly and pleasantly than ›e remained in ignorance of them. These rules are ››etimes called the rules of *etiquette*. We shall here ›ation a few of the more important of these social ›ulations:—

› *Honour to the female sex.*—Women are physically ››ker than men. They are unable to defend them››es from insult or injury, and it would be considered ›elicate for them to do so, even if they possessed the ››er. For these and other reasons, it is only simple ››teness and a sign of good sense to render any little ›vice to women—to assist them when they appear in ' difficulty, to speak respectfully of them and to ›n, and to give them honour whenever it can be ››nably required. It will be observed, therefore, in ›t is called good society, that women are treated ' exceeding delicacy and deference: they are of›d the best seat, or the only seat if there be no other; ››ed to walk next the wall, or at the farthest point from danger, in the street; never rudely jostled against in a crowded thoroughfare; and are always parted from with a respectful bow. All this is considered essential in good manners, and attention to it will not in the smallest degree degrade any man in the opinion of the world. At the same time, as respects the women who receive these attentions, it is expected that they will not "give themselves foolish airs," or presume on the forbearance and kindness of the stronger sex. In fact, no female will do so who is acquainted with good manners, or wishes to avoid being despised.

2. *General courtesy and respect.*—It is incumbent on every one to be courteous or respectful in his intercourse with neighbours, acquaintances, or with the public generally. To inferiors, speak kindly and considerately, so as to relieve them from any feeling of being beneath you in circumstances; to equals be plain and unaffected in manner; and to superiors, show becoming respect, without, however, descending to subserviency or meanness. In short, act a manly, courteous, and inoffensive part in all the situations in life in which you may be placed. Society, for good and sufficient reasons, which it is needless here to explain, has ordained certain modes of address, and certain exterior signs of respectfulness, which it behoves us to support and personally attend to. In eastern countries, as of old, it is the custom to uncover the feet and to sit down, in token of respect, on going into the presence of kings, or on entering any religious edifice or private dwelling. In our country, the custom is entirely the reverse. It is an established mark of respect to uncover the head and to stand, in the situations which we have mentioned, and to this point of etiquette we are bound to adhere. We must not, from any crotchet of our own, violate the rules or customs which society sanctions and enjoins, as long as these rules and customs are not opposed to reason and sound morals, and only refer to such trivial arrangements as taking off our hat, making a bow, shaking hands, or other matters equally unworthy of deliberate consideration. None but persons of a silly, eccentric turn of mind, think of disputing about these trifles. On the same principle, give every one the title, which, by law or courtesy, he usually receives.

3. *Personal behaviour.*—A well-bred man is always known by the perfect ease and tranquillity of his manner. These are points to be carefully cultivated. Acquire, if possible, an easy confidence in speaking, so as never to appear abashed or confused, taking care, however, not to fall into the opposite error of forwardness or presumption. Persons moving in the highest circles of society never allow themselves to appear disturbed or vexed, whatever occurs to annoy them. Perhaps there may be an affectation of indifference in this; still their conduct is worth admiring, for every thing like fidgetiness or boisterousness of manner is disagreeable to all who witness it.

Carefully avoid the following things in personal behaviour:—Loose and harsh speaking; making noises in eating or drinking; leaning awkwardly when sitting; rattling with knives and forks at table; starting up suddenly, and going unceremoniously out of the room; tossing any thing from you with affected contempt or indifference; taking any thing without thanking the giver; standing in the way when there is scarcely room to pass; going before any one who is looking at a picture or any other object; pushing against any one without begging pardon for the unintentional rudeness; taking possession of a seat in a coach, theatre, or place of public meeting, which you are informed belongs to another; intruding your opinions where they are not wanted, or where they would give offence; leaving acquaintances in the street, or a private company, without bidding them good-bye, or at least making a bow to express a kindly farewell; slapping any one familiarly on the shoulder or arm; interrupting any one who is conversing with you; telling long and tiresome stories; whispering in company; making remarks on the dress of those about you, or upon things in the room; flatly

bad manners, but these will be sufficient to illustrate the principle of politeness, and if that be understood, there can be no difficulty in knowing how to act with delicacy and discretion in all the concerns of life.

4. *Gentility and vulgarity.*—By attention to the rules of good breeding, such as we have just alluded to, the poorest man will be entitled to the character of a *gentleman*, and by inattention to them the most wealthy individual will be essentially *vulgar*. Vulgarity signifies coarseness or indelicacy of manner, and is not necessarily associated with poverty or lowliness of condition. Thus, an operative artisan may be a gentleman, and worthy of our particular esteem; while an opulent merchant may be only a vulgar clown, with whom it is impossible to be on terms of friendly intercourse. Vulgarity of manner is often exhibited, in its most offensive form, by persons originally of humble birth and breeding, who have risen to wealth by the force of fortuitous circumstances. It is not uncommon to hear persons of this class, particularly "ladies," speaking of "my coach," "my house," "my governess," "my family," "my servants," "my furniture," and so forth: all which is *pure vulgarity*, and indicates a low tone of breeding, and weak understanding on the part of the speaker. A man or woman of refined taste never alludes to matters of dress, domestic convenience, or things strictly personal, and rather endeavours to direct conversation into those channels in which all may harmoniously join.*

ANGER.

One of the most important of our private duties is the due regulation of the passions. We naturally possess certain mental affections called *propensities*, which, when properly restrained, serve a good purpose, both individually and socially, but when let loose, or badly regulated by the understanding, lead to the commission of many vicious and abominable actions, which in moments of calm reflection, and when our conscience is aroused, we deeply lament and regret. Irritability of temper, as demonstrated in the passion of anger, is one of the most unhappy of these derangements of our intellect.

The causes of anger are supposed to be these:—First, by the law of nature and of society, every one has rights

the least that can happen to one
acting, is, that he is preparing for
reproach and of bitterness. If no
that he was violently angry himself
in seeing others so, it must be
anger is contrary to natural law,
to divine law. It is an abuse of
us to promote our own welfare.

It is consistent with reason for
the influence of anger, to be prepa
the question, whether the wrong is
and whether he is himself free fro
of having occasioned, by his own
regards as a wrong. If the offen
tions arise, of this nature: What r
to myself by attempting to get a re
respect shall I advance my own
to punish the offender! May I
attempts, involve myself, by wo
wrong, and give my adversary th
me an offender, in trying to vindic
succeed in my attempt, what will
not make the wrong done to me
subject myself to the pity and c
Is it not better to be silent, and
offender to time and his own cons
myself in a controversy which is
and in which I shall run the risk
in which I shall not be likely to
succeed in humbling my adversar
him my enemy for ever; for, in
is slow to forgive the wounds inf
love. When this matter is over,
ted the mists which now prevent
when other feelings and sentime
I like myself the better for ha
quiet, than if I shall have attem
tice and to inflict punishment!
young and ardent minds, and t
back by the light of experience,
tions very differently. But the ex
young, with sorrowful truth, that
ful sufferings of life are to be n
have arisen from sudden impuls

e forms of himself is often much more unsound
t which he forms of others. The eye cannot see
o neither can any one see himself. He must
irror. There are many of these. History, books,
ample, his own experience, every person he
contact with, are mirrors. If he sees himself
, and thereby corrects his own errors and follies,
es himself reasonable and just credit for his
ents, he may come at length to be entitled to
a respect for himself. There is a certain best
be done, and a certain best manner of doing it,
ossible circumstances in which one may find
. Nothing is entitled to be considered *best* which
t conform to natural law, the law of God, the
law of the land, the conventional laws of society
as they are founded in reason and good sense),
he decencies of life. To that best thing, and to
t manner, no one, perhaps, ever perfectly at-
out it cannot be doubted that there is some such
d. He who comes the nearest to it is he who is
titled to entertain a respect for himself.

PRIDE.

e is a kind of pride which is often mistaken for
ect. We hear of honourable and of laudable
We take pride to be that self-esteem in which
holds himself. It may be founded in his esti-
of the qualities of his mind, in his attainments,
ssessions, in his strength, his beauty, his paren-
d descent. It may also be founded in a con-
ss of virtue, and of having faithfully done one's
all the relations of life. It seems to arise
rily from comparing one's self with other per-
If this be the right meaning of pride, it is very
lat it is not always a sentiment which entitles
respect himself. A man would be thought to
y unwise who should openly declare that he
himself, in comparison with other men, on ac-
f his wealth, his beauty, or his family connexion;
unwise, if he should declare his opinion of him-
e, that he was superior to other men in the gift
ral intellect, in the cultivation of it, or in the
e of the various virtues. The common sense of
d, founded in natural reason, does not approve
self-gratulation which rests on the accident of
f inheritance, or even on the acquisition of for-
one's own industry; nor does it approve of that
when founded on qualities which belong to the
nor even in the practice of the virtues, unless
nanifested in a certain manner. There must be,
very nature of things, some persons in every
nity, large or small, who are superior to others
e sources of self-esteem. In every city, town,
lage, in this nation, there are some persons who
possession of some of these causes of self-esteem
e comparative degree, and other persons who
e fewest or the least of them. Those who so use
dvantages as to entitle themselves to the esteem
rs, and who are acknowledged to be respectable
t use, may well be entitled to respect themselves
uch causes. Those who use them in such a
r as to announce the feeling of superiority over
and habitually to offend the watchful feeling of
e, are properly called *the proud*. It is believed
ese views conform to natural law, and to the
ary constitution of human society.

VANITY.

ill greater mistake is made in substituting vanity
f-respect. The word vanity is made out of two
words which signify *exceeding emptiness*. It is
nly understood to mean a strong desire to be
, considered, and esteemed by others, but on
t of things rarely worthy of a rational mind.
ersons covet praise. They thrust themselves, and
which they value themselves, upon the notice
rs. They delight in recounting their achieve-
and sometimes make the sad blunder of speaking
se who know they are mistaken. They seem

adroitly on their own excellences, and provoke others to descant upon them. They have such delightful visions of self-complacency, that it seems cruel to disturb them. Such persons are very ready to become tools in the hands of more knowing persons. In general, the display of this poor passion is made by persons of very light and frivolous minds. It is seen at all ages, but strikingly in youth. To see a young person strutting or mincing along in a new garment, or in some personal ornament, and watching to see if he is noticed, and by whom, excites a feeling of pity and contempt. The same feeling arises when young persons are seen, who say in their movements, as intelligibly as though they spoke in plain English, "Do they not think me very handsome—elegantly dressed—a charming figure—most exceedingly graceful!" In some instances lookers-on do think so, and smile contemptuously at the same time. But, in general, lookers-on see no such thing as the vain imagine; they do see that which it would be shocking to those votaries of vanity to know *is* seen. They do see talents wasted, time misspent, foolish hopes, and vain desires. They do see that the purposes of life are misunderstood or perverted. Is there any remedy for these follies? None, probably, unless one would bring home to the minds of the vain, that they violate the strongest precept laid down in the code of natural law for the government of persons individually and socially. That precept commands them so to conduct themselves in all things, as to entitle themselves to self-respect, and, consequently, to the respect of others. If the vain could conceive how small a portion they make of created being, how insignificant a part they make of civilised society, how many there are in that society, whose pretensions, if asserted, would be transcendently superior to their own, they might, perhaps, dismiss their little vanities, and devote themselves to gratifications worthy of their intended nature.

GRATITUDE AND INGRATITUDE.

If a destitute young person should attract the notice of a wealthy man, and should be by him supported, educated, and established in the world, so as to be able to live, to become independent and respectable, every one would say that this is a case for the feeling and the expression of fervent gratitude. Let us suppose that the patron of this young man frequently reminds him of his former condition, and by what means he finds himself where he is. Suppose the patron exacts a frequent acknowledgment of his bounty, and takes to himself unqualified praise for his goodness. Let us suppose that the obliged party finds his condition very irksome, and almost wishes that he had never been the subject of such burdensome favour, and is at length provoked to say so—*is he ungrateful?* It would seem, then, that gratitude had two sides to it, as well as two parties. He who has conferred a favour has not done all which it concerns him to do; and he who receives a favour may have a difficult task to perform. A bargain is an exchange of one thing for another, and the parties are even. The conferring of favours, whether these be asked for or not, seems to stand on very different grounds. Many elements make up that compound from which gratitude is said to arise. The parties may understand the nature of the favour very differently at the time when it is conferred, and more differently afterwards. He who confers, has a retentive memory; he who receives, a fading one: time engraves the favour deeper and deeper in the former, and wears it out more and more in the latter. In the former it often preserves the freshness of a new occurrence; in the latter the sense of favour often goes, and the weight of obligation alone remains. It may be that the complaints made against ungrateful persons are not always well founded, and that the expectations of those who confer favours are as little so. Some poet has written,

> He that's ungrateful has an only fault—
> All other crimes may pass for virtues in him.

The meaning of this couplet must be, that the members of society are under no obligations to confer [illegible] and that, if they do confer them, the party ob[liged] monster if he do not—*what?* We know no[t] intended, nor that there is any rule by which [it] is to be manifested. We think that every m[an] society is to do what of good he can, and to wh[om] stands in need of it. He is not to stop to mea[sure] calculate how he is to be paid for it. He m[ust] paid by the party benefited directly, but by so[me] and in some other and unexpected way. W[hen] confers favours, opens an account with the cha[nce] chances and accidents of life. His credit sid[e] well in the close. If he confer a favour, b[ut] because he thinks he can and ought to do it. the *pleasure* of doing it. If he wishes to a[void] affliction of ingratitude, he has only to avoid le[ading] party obliged know, unnecessarily, whence th[at] comes. When a favour is done, the party co[nfers] it takes on himself the duty of respecting th[e] of the human heart which is founded in reason love, and which is entitled to respect—that is, t[o] *one who has had the misfortune to be bound* is t[o] *clank them for the gratification of him who put* There are cases of extreme ingratitude. T[hey] have been occasioned by the irritating or i[nsulting] conduct of the party who was entitled to a return. They are not of common occurrence they do occur, uncaused, the disappointed p[erson] hope to find a better subject in his next essay

SLANDER.

This is a twofold crime: 1. It is a breach o[f] law, of divine law, and of the implied law of s[ociety] relation to the party spoken of; 2. It is a b[reach] the same law, in relation to the party speaking been commonly treated of in the first relation now to be noticed in the second; and if it b[e] why it is a breach in this, the other will ma[nifest] itself. We beg leave to ask a slanderer a few qu[estions] Do you desire to be esteemed in society for yo[ur] ligence, your sense of justice, your knowledg decencies of life, and for the observance of th[ese] you happen to be ill-tempered, petulant, and d[is]able to your family connexions and associates make hasty and troublesome judgments, which y[ou] to rescind or reform; if you happen to be ridic[ulous] your deportment, and remarkable for silly vani[ty] you willing to have these things set forth in a[n] every company, by any one who knows a[ll] Suppose there to be only some slight foundat[ion] some one or more of these things, which, if yo[u] have an opportunity to explain, would be c[learly] cleared up, are you willing to have that slight fou[ndation] made the basis of a structure of reproach, w[hich] true and real, ought to expel you from decent s[ociety] Suppose there to be no foundation at all for a[ny] accusation of yourself, and yet somehow, a[s] accountably, it is afloat and circulating, should y[ou] think great injustice to be done to you! This [is] what you do to others. You take away the name, if they deserve to have one; you magnif[y] little faults and errors, and make them ridicu[lous] odious; you try them on indictments for serious c[rimes] on which they have no opportunity to defend themselves, and of which they are ignorant. Wha[t] you get your information? What credit were entitled to from whom you had it? Did you unde[r]stand them as they meant to be understood? Who[m] how did your informants learn what they com[mu]cated? Were they thoughtless or malicious slan[derers] like yourself? How much have you added to slanders by way of recommending and making y[our] agreeable? Have you broken any law by this co[n]duct? We take the liberty to answer for you.

You have broken every law which an hon[est] honourable man, and a rational individual, [is] respect. 1. You have made every person who [you] have spoken to, fear you and shun you. Y[ou] shown that you know not what the value of [a]

is, and have forfeited your own, if you ever had

You have shown that you are a stranger to self- et; that you have probably every one of the faults, s, and errors, which you impute to others; and e to bring them down to your own level. Thus ave broken that law which commands you to do il to yourself. 2. You have violated that principle ural law which commands you to do no injustice ar fellow-men. You know not what opinions you ntertain of the party you have slandered, if cir- ances (as they may) should bring you into con- n with him. You may find him to be, on a better ledge of him, an amiable and worthy person. You nd all that you have said, and helped to circulate, y groundless. If he be one whom you occasionally , and even ask to partake of your hospitality, how you meet him, and manifest towards him every ment of respect and esteem, when you have so n of him? One of two things must be true: r you *act a lie*, when you meet him in such a man- or you *spoke a lie*, when you represented him as id to others. 3. You have broken the law of God. is law, perhaps, you are a stranger, and know not . wrong you have done. If so, the kindest thing any one can do you is, to urge you to find out what and to learn there the sentence of the slanderer.

may be asked, whether one is to be entirely silent l times, and on all occasions, as to the character conduct of others? Certainly not. There are y occasions for speaking of others, and for speak- he *truth* of them, whatever that may be. All the bers of any community are interested in knowing rue character of each other. The knowledge that character may be known, is one of the most salu- correctives of erroneous conduct, and one of the gest inducements to pursue that which is com- dable. It is probably the case, that the members very community are pretty well understood by all have an interest in knowing them. We know not ny law which holds it to be immoral *to speak the h of any one, from good motives, and for justifiable s*. It is all-important that this principle should pre- in our country, where so much depends on public ion. Surely one's arms are not to be folded, and lips closed, when he sees one bent on mischief, pub- or private. It may be one of the highest moral s to declare what men are, and what they are ing at, in many supposable cases. There can be no r guide than the *motive* and the *end*. Inquiries are times made, in matters of greater or less interest, erning others, confidentially, and where the in- er needs to be truly informed. The party inquired s a right to be silent, if he thinks he has good n to be so; but if he answer, he is bound to state ruth. If he choose to speak, and wilfully conceal ruth, so that the inquirer is deceived, he subjects elf to the imputation of an intentional deceiver. ere may be also, and there frequently are, con- tial discussions of character, especially concerning e men, and where perhaps there is no particular n view. This does not seem to be wrong; such course is not founded in malicious or unworthy es. It is even sometimes instructive and philo- cal. This, perhaps, is the extreme limit. In all imaginable cases, it is probably most consistent one's own self-respect, and all truly respectable es, to let other persons alone, and leave to them are of their own characters.

PROFANITY.

cepting the high crimes which are punishable by ublic laws, there is no one so shocking as *profanity*, ny one which there is so little inducement to com-

Profane swearing is of two kinds: 1. That in h the Deity is called on to do the pleasure of a ng mortal; 2. That in which the Deity is called on itness the truth of such a being's thoughtless or ed declarations. This common practice can be unted for chiefly on two grounds: 1. Pitiable igno- rance; 2. Abominable wickedness. On the first ground, surely the profane swearer must be ignorant of the import of the terms which he uses. If he did understand his own words, he would be struck with horror. Surely, if there be any escape for the profane from that condemnation which they imprecate on others, it must be, that mercy will be extended to them in compassion for their ignorance. On the other hand, if they are not ignorant, but do knowingly and wilfully so misuse the gift of an immortal mind, and that unquestionable proof of Divine power and goodness, *the ability to speak*, they cannot be subjects of moral instruction. They should be left, like the consumers of alcohol and tobacco, to shock and to warn others.

Swearing, which formerly pervaded every rank of society, is now to be chiefly found in a very low and uninstructed class: it is, in fact, a vulgar and proscribed mode of speech. Nevertheless, it is still used occasionally by persons of no humble rank, especially by the young, though chiefly for the purpose of giving an emphasis to speech, or perhaps simply to give token of a redundancy of spirits, and a high state of excitement. To those who are guilty of it for these reasons, it is only necessary to point out, that no well-informed person can be at the least loss, with the genuine words of the English language, to express all legitimate ideas and feelings, and that to use either profane or slang words, is, at the very least, the indication of a low taste and an inferior understanding. A direct, pure, manly use of our native language, is an object which all may cultivate in a greater or less degree; and we have invariably observed, through life, that the most virtuous persons are the most exempt from the use of mean and ridiculous phraseology, and monkey tricks of all kinds.

Does not one who is habitually profane, necessarily entertain a low opinion of himself? Would any respectable merchant, or mechanic, or farmer, receive into his service a youth whom he knew to be a profane swearer? Could any one who is known to be such, find admission into any school, academy, seminary, or college? Would any respectable parent admit such an one to be a companion of his children, or a visitant in his family? Would not every reasoning person say, that a youth who is so ignorant as not to know that swearing is a violation of natural and divine law, must be ignorant enough not to know that there are many other laws for the proper government of society, and consequently that he is an unsafe person to be trusted? If the profanity be the consequence of voluntary wickedness, then surely all reflecting persons would say, that he who is wicked in this respect, is indeed wicked; but then he will be wicked in others also. For, as there is one chain which runs through all the virtues, and binds them in a sympathetic union, so also is there a chain which unites all the vices. He who swears, may be justly suspected of drinking; he who swears and drinks, may be justly suspected of gaming; he who swears, and drinks, and games, must keep very bad company by day and by night. He who keeps such company from such motives, must squander his own property, or steal that of somebody else to expend. He who robs another will commit forgery, and he who is so desperate as to commit these two latter crimes, will not hesitate long to put a human being out of the way of his pressing wants, if he is tempted to do it. It is probable that habitual lying and swearing are the first steps in that mournful series of crimes, and the first beginnings in the course of deplorable wretchedness, which deform and disgrace human society. Will any one maintain that these are necessary evils, and that God has so made man that they cannot be prevented? Surely these are evils wholly of human origin; and where they begin, there lies the power to extirpate them.

ENVY.

It is to be kept in view, that the main object is to show that this is a good sort of existence, if man knew how to use it, and that he is the author of his own af-

principle of action, he would see, probably, the most operative cause of the misery which men inflict upon them-selves and on each other. If one has not time to read history, and watch his fellow-men, he may perhaps learn much of what he would find in these authorities, by *reading his own heart.*

The word envy comes from two Latin words, *in* and *vidio*, and signifies *looking against.* It arises from perceiving in other persons, qualities which one's own self-love leads him to wish to have—as beauty, strength, grace, learning, eloquence, power, &c. It extends to riches, to office, to distinction, to the respect and esteem in which one is held by his fellow-men, and even to birth and ancestry. It makes one *sorry* that he has not these good things, and makes him *angry* that others have them. One easily persuades himself that great injustice is done to him, in that *he* has them not. The next step is to *hate* him who has them. Then comes the desire to deprive the supposed fortunate possessor of the benefit of them. But to admit that one has these malignant promptings, is contrary to another principle of self-love; and therefore no man tells another of his own envy, and he tries to wrap it up from his own view. As he cannot and dare not openly manifest that he is envious, he must obey the suggestions of malice in the dark. He therefore intrigues, insinuates, and becomes adroit in putting one thing for another; he secretly and by covert means undermines the object of his hatred. He whispers his doubts, suspicions, opinions, and belief. If the tenure of the hated object is too strong to be shaken, then the bad use which he makes of his advantages are sought out. The base accompaniments of his fine qualities are brought forth, and placed in the strongest light. "She is beautiful; *but* she is vain, haughty, and silly. He is rich; *but* he got his wealth by frauds, and hoards it like a miser. He is able, eloquent, and popular; *but* he is selfish and insincere, and would put a yoke on every neck in the country if he could. He is making a great flourish in the world; *but* it is all false and hollow—he came from nothing, and will go back to nothing." It may be easily inferred that one who has surrendered himself to the dominion of envy, not only deprives himself of the profitable use of what he has or might have, but makes himself wretched in contemplating what he must know he cannot have: he would descend, until the scrimmary place for even envy to find somethin

Is not this a fair example of what in all grades and classes of social lif passion of envy, earth-born, mischie What is the remedy? Common sens point out the remedy. Generally member in society is just as much i he is in his own skin. No one ca place. Every one has his place ori him, and his natural condition in which he had no control, and in ma no agency. What he will make out the circumstances in which he fin depend (after the irresponsible state o on his own thoughts, motives, and his greatest good, not in repining at (which he can never make to be his cannot destroy without expecting re to himself), but in making his own c he can, consistently with self-respect That which is given to others, and lawfully acquire, is righteously their given to one's self, and all that he like manner his own. If he would done to him by those who are below no injustice to those who are above h no doubt that the day will come whe instructed, and men so self-discipline the laws of nature, and the laws of formable to these, permit to every place, enjoin duties in that place, and from the performance of those duties comes, envy will die.

EMULATION.

This has been sometimes classed w have nothing in common. One woul in being known to be envious, but praise to himself in being emulous. action was given to man for the best and upon the application of it, with and to commendable ends, the advan welfare mainly depends. We under the desire to obtain excellence in

whose vocations are perilous, those who are
by the thorn of political ambition. It is pro-
at such persons do experience many painful
ressing emotions, and that they sometimes pay
r their distinction; but it is demonstrable that
h persons might have tranquillity, if they had
frame of mind. There are persons who sustai-
aching solicitude for the reasonable discretion
which is all that is required in the perform-
duty. There are others who greatly overvalue
notions to which they attain or aspire; and very
hem reflect, that, when they do succeed, they
ke success, especially in popular governments,
accompaniments of having their worthy acts
rstood and reproached, and their mistaken ones
d and distorted, to suit the occasions of adver-

remedy for this sort of suffering is within every
wer. Those who are poor, and in humble life,
extreme poverty, may possess peace of mind;
s of easier acquisition by these than by those
involved in the duties of office, and the respon-
of trust, and the embarrassment of wealth.
ly, without this treasure, no earthly grandeur,
aise of posthumous glory, is worth having or
for. If the laws of nature, and the teaching
lation, were properly known, respected, and
the common causes of inquietude would hardly
vn. For example, what is more common than
ints of the weather? It is too hot or cold, wet
It is not nature that mistakes about the wea-
it ourselves. The movements of the winds and
ers, and the temperament of both, proceed on
reat and universal laws, far beyond human per-
. That which is exacted of us to believe is, that
and to adapt ourselves to it, by our experience
genuity. What sort of effect would it produce
earth, if such things were regulated by human
ion of what is best? When one has occasion
o use a board or stick of timber, which has been
ict with the ground for a certain length of time,
irbs and puts to flight families, communities, and
nations of living beings. Man may be much in
ie relation as to general laws (not meant for him
prehend), in which these insects are on the re-
of their covering.
o all causes of inquietude arising from the ope-
of nature's laws, in which human agency has no
n, they must be right, although they occasion
nience to individuals. As to the acts and omis-
f others which affect us, some questions are to be
and answered before one can rightly judge of
namely—What is the real cause of our complaint?
t the first fault arise from some act or omission
own? Do we judge reasonably of the supposed
? Do we make charitable allowance for the mis-
ension which may affect the party complained
hen the inquietude arises from our own wayward
evish disposition, from our own misconduct,
nce, or breach of laws, which we could know if
ld, the remedy lies in becoming wiser and better,
re reasonable in learning how we may make of
t which it was intended to be, when we use it as
uld. Let any reasonable being look back on his
fe, and calmly consider the causes of his own
tions, ill-will, and sufferings, in body and mind;
any of these can he fairly lay to the blame of the
r's laws, of nature's laws, or those of society,
r positive or implied? If to these he can charge
ry few, who but himself is there to take the resi-

have been trying to show what peace of mind is
We have to show what it is, or rather in what it
ded. It comes from sober conviction that the
r has made his own laws for his own universe;
e requires conformity to these laws; that he per-
nd enjoins the use of what is good and right;
e punishes all that is wrong and mischievous.
e trusted every mortal with his own welfare, with

with the means of purchasing a precious name; they would learn that no wealth will exempt any man from earning an appetite for his pleasures by physical motion; that, if he is tired of being rich and happy, *he must work* to accomplish some reasonable purpose. His distinction is, that he may choose the means in which he will expend *to be busy*, while others can only work in some prescribed mode *to live*.

The middle classes, and all who are not dependently poor, have as many and as valuable sources of enjoyment as those have whom they think to be better off than themselves. They can love and be loved; they can be respected and esteemed; they can have the consciousness of behaving well, where their lot has been cast; they have a far keener zest for natural and reasonable pleasure than those who misuse the bounties of accidental condition; they can have peace of mind when it is denied to those whom they deem more fortunate. If these natural laws, which seem to be so plain and obvious, were understood and respected, the labourers *in mind*, in all their varied employments, would do diligently, and in the best manner in their power, that which they have undertaken. Men of public trust would do honestly, and with a single view to their trust, that which they have undertaken. Suppose it were all so, and yet troubles and disappointments come. This may be, and yet there would be peace of mind. If every one were assured that no act, no omission of his own, makes him suffer, that he has acted faithfully and honestly, and to the best of his ability, in the circumstances in which he was placed, he would be entitled to have, and by the law of immutable justice, he would have, *peace of mind*.

HAPPINESS.

There is no word in our language more commonly used, nor any one less defined or less understood. It is sometimes taken to mean pleasurable sensations derived through the senses; sometimes it means a peculiar state of mind. It may be said that a pirate who has been brought to the most perfect penitence, and who is sensible that he has forfeited his life to the demands of justice, and that he is about to be transferred from the perplexities and sufferings of this state of being to endless felicity, is *happy* that he is going to be *hanged*. Perhaps it is easier to tell what happiness

good. But there may be disappoint
causes of mortification and sorrow.
hend, do not seriously disturb any w
when there is a consciousness that
sight or prudence would have discer
the cause. Perfect happiness in t
ever be remembered, is not to be
happiness that we can really attain o
contented tranquillity of mind und
and changes of this mortal life.
called the *happy medium;* and this
in all human arrangements. Be mo
For example, to take no amusemen
prives the mind of needful rest a
likewise it is bad to be altogether gi
ment, for then all serious objects are
true plan is to take amusement in m
minds have never awakened to a taste
the imitative arts, and music, and th
pleasure which others enjoy: again,
whom nature has implanted, and
strong a predilection for these thing
a vice. To be very much in societ
riorate the human character, makin
incapacitating it for taking abstract a
on the other hand, a perfectly solitar
mind, lays it open to odd fancies an
not to hypochrondia, and ends in
altogether throwing it from its balan
is here also found alone salutary.
gay, in a world where so many evils
every step, and so many onerous t
attention, is wrong: so is it to be alwa
that the world also contains the m
happiness. What is proper is, that w
to rejoice and mourn in moderation o
occasions. Finally, one may feel a
abide by these moderate desires, and
to be reasonably busy to some good
conduct himself as to be justly entitled
bation, and if he live in the habitu
there is an omnipresent, omniscient, a
of moral, accountable, and immortal
tainly be happy.

Note.—The matter of this sheet has been

RS'S

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TIES OF LIFE.

ves aggrieved by oppressive state measures, they
eedingly apt to break into tumults, and take up
gainst the officers of their governments. This is
shortsighted policy, as the history of all nations
; for the people are always sure to suffer far
the coercive measures adopted to restrain them
ey would have done by submitting to the evil
iginally complained of. It is the boast and glory
in—and long may it be so—that its people know
respect the laws, even while they consider them
jurious, and how to correct them by quiet and
procedure. In this lies the important secret
national greatness, their wealth, their public

The advantages arising out of a scrupulous
ce to the laws, consist, in the first place, of social
nd quietude, by which the rights of property are
ed, commerce and trade permitted to flourish,
sacred inviolability of the person preserved. The
of turbulence and civil commotion are, poverty,
property, insecurity of the person, destruction
nerce and trade, and at length, military oppres-
l barbarism. Every intelligent man, therefore,
country, yields not only a bare submission but
ing respect to the laws, as well as to the various
ions established by their authority.

ct obedience both to the letter and the spirit of
s, does not, however, imply that we should not
e whether they are in every respect answerable
present condition of society, nor keep us from
g to legal means to have them corrected, or
er rescinded. The constitution points out how
o be done. It is illegal to conspire secretly to
ow the law. All measures calculated to improve
ial condition must be conducted openly and
ably. The means put into our hands by the
tion for improving the law are very powerful,
led with discretion. The people have the ap-
nt of the men who constitute the most influential
of the legislature; if they do not appoint indi-
who will meet their views with regard to mor-
or abolishing laws, they have themselves to
the constitution confers upon them a liberty of

It besides gives them the right to present peti-
the legislature, either individually or in bodies,
in respectful terms for the amendment or
n of any law which is deemed oppressive or
ted. This right gives a vast addition to the
f the people. It is of much greater value than
uld at first be inclined to suppose, and is infi-
referable to the use of violence. The right of
implies the right of meeting publicly to discuss
priety of petitioning. This practice of meeting
r excites the public mind to renewed efforts in
se it undertakes. The speeches of the orators
ulated and commented upon by the newspapers
the country. One meeting gives rise to others,

men's minds are enlightened and warmed, and the public opinion acquires a degree of moral force, any resistance to which would be useless. It is not without reason, therefore, that the people of this country set so high a value on the right to assemble for the discussion of public affairs, and place it in the first rank of their constitutional prerogatives.

Besides yielding obedience to the existing laws, we are under a collateral obligation to be loyal to the sovereign who rules over us. Loyalty is hence another of our chief public duties. There is some difference of opinion with regard to what extent loyalty ought to be carried. It appears to us that this is a simple matter. A power to protect the nation from foreign insult, and to preserve the internal peace of the country, *must be lodged somewhere*. It is found to be most convenient to lodge it in the hands of one person, under proper restrictions. In Great Britain, as will be seen in our history of that country, it has been placed in the possession of a hereditary prince or king. This person is entitled our ruler or sovereign; we are termed his subjects. Loyalty signifies a fidelity and willingness in serving the king, so that he may be enabled both to protect the nation from outward harm, and to preserve order in society, through the agency of the laws, or, failing them, through the application of force. Seeing that the sovereign is prevented by the constitution from infringing upon the rights of the subject, through the exercise of his power, it is discovered that loyalty is rewarded in the comfort we enjoy; or, to use another expression, self-interest alone, if no nobler sentiment interfere, would lead us to afford assistance to the king in the execution of his high and important trust. This assistance is demonstrated, not only by personal service, if necessary, but by respect. Loyalty may be greatly enhanced by esteem for the private virtues and conduct of the sovereign. When so influenced, it is certainly both an amiable and commendable feeling, and can never, but in ill-regulated minds, degenerate into servile prostration.

In the United States of America, in which the executive is lodged in an elective president, the people call themselves citizens, not subjects; and what we mean by loyalty to the sovereign, they term duty to the commonwealth. It is obvious that there is extremely little essential difference, *practically*, between these phrases, whatever there may be in *feeling*. The subjects of Great Britain are as free as any people in the civilised world; much freer, indeed, than the inhabitants of France, who disclaim the appellation of *subjects*. These explanations are perhaps useful in admonishing us to beware how we vex ourselves about mere words and sounds. Our duty clearly consists in appreciating the numerous blessings we enjoy in our public and private relations, by whatever name these relations may be called. We are each individually fractional parts of a great nation, whose honour we are called on to sustain through good and bad report. Let us remember that individual virtue can alone promote social happiness, and that social happiness and peace form the basis of political independence. No man can be a good and respectable subject or citizen who is a bad son, a bad husband, a bad father, or a bad master. The nation is but a composition of a great many families, knit together by kindred sentiments and mutual wants; and how can it be great, or worthy of esteem, if its component parts exhibit in their constitution the worst of vices!

Loyalty to the sovereign leads to a subordinate but important duty. It induces us to respect inferior constituted authorities. All judges, magistrates, or other civil functionaries, stand in the light of representatives of the sovereign. The king cannot be every where at once, and he deputes these individuals to attend to the wants of his subjects, and to keep good order in society. To show contempt for any court of justice, or for any magistrate, is, therefore, equivalent to showing contempt for the king himself, as well as for the laws, and is justly punishable. To show our respect both for the laws and the sovereign, we must respect the decisions of judges and magistrates, and support their due exec our personal influence. Nevertheless, it is one's power, when they feel themselves aggri these decisions, to appeal to higher authorit dress; such being the only means allowable constitution, in opposing the legal power of t blished courts of civil and criminal jurisprude

A becoming obedience to the laws, and a g respect for the supreme and inferior constitut rities, produces the agreeable result of good or peace in society. Every one is not acquainted different ramifications of the common and stat indeed it would be impossible for us to acquire knowledge of these things unless we devoted a to the study. This difficulty in acquiring a kn of the laws, has sometimes given rise to a lo jeering at our excellent constitution, and it represented as cruel to compel an obedience which few can have an opportunity of learni this is a fallacy into which we hope our young will not fall. The administration of the com such as that which applies to inheritance, deb creditor, and civil rights generally, rests with of educated men, or lawyers, whose services m times be commanded. Besides, we may, if w purchase digests of these laws for our private ment and instruction. The other description which is made applicable to the preservation peace of society, any one can understand, if the ability to know right from wrong. We k know that it is illegal and criminal to steal, t murder, to break into our neighbours' house attack their persons by violence. It can re reading of acts of Parliament to understand th mon sense here serves us instead of legal kno Our duty in this matter is very easily defin must ever bear in mind that one of the prim of duty which the constitution enforces, is the ing from meddling violently with the persons perty of our fellow-subjects. In this well-re realm, the person of every man, woman, and inviolable from private attack. It is a crime punishable with the highest penalty of the law, t any one, either from an idea that they have inj or through the influence of passion and preju we consider that we have been injured, we mu to the law or the magisterial authorities for We are only permitted to use physical force absolute danger of losing our lives or property lence, there being then no time to apply to the protection. It would be gratifying if these re were more generally attended to than they are There are many young men, who, from what pleased to term a love of fun, but which can be sentiment than a love of mischief, or gross ig assail the persons of individuals of both sexes, great discomfort, and sometimes serious injur it is clearly illegal to do so, and is generally by the infliction of severe penalties by the civ trate, though seldom marked with that ignomi it deserves. Inasmuch as it is held that ign the law does not excuse its infraction, so is it an invalid apology for the commission of cri that you were under the influence of intoxicati time. Drunkenness is very properly esteemed vation, not a palliation, of the offence.

CONDUCT AT PUBLIC MEETINGS.

The right of meeting together publicly matters connected with our social condition, invaluable a prerogative, it is right and fittin young men entering into the busy scenes of li make themselves well acquainted with the ru

* At the same time, we willingly allow that there great improvement in the dissemination of a knowle statute law, particularly that of a recent date. It is some plan will soon be carried into execution, to re defect.

rity carrying. If the votes be equal in number, ting-vote of the chairman carries. There is an- way of suppressing a resolution, which is by g the previous question.' This signifies, to to the point at which the business of the meeting revious to the tabling of the motion; or means, r words, to do nothing on the subject. But this be seconded, and put to the vote in opposition to the motion or amendment, or to both. The is generally to place it in opposition to both; if , the matter is settled; if not carried, the order to place the motion and amendment against each and vote.

is an outline of the mode of procedure at public gs, and it is particularly desirable that attention be shown to the preservation of regularity. At lic meetings there is a strong tendency "to go order." By this expression it is meant that e are under a constant liability to wander from nt under discussion. They are apt to digress her subjects, and confuse their auditors; and getting impatient, are equally apt to interrupt so that a single irrelevant observation may lead s of idle debate or colloquy, or "speaking to " as it is termed, and thus the harmony of the ly be destroyed. Those who attend such meet- ould therefore have a regard for the following tions:—If they speak, they should keep closely ubject in hand. If they be listeners, they should to a strict silence. It is ungentlemanly, not to orderly, to utter any sound or make any observ- on what a speaker is saying. The speaker must account be interrupted, so long as he keeps to and if not in order, it is the chairman's duty to him. It is likewise disorderly to speak more ce, except in replying before the vote is put, or it be the rule of the assembly to permit it. mes persons who have spoken rise again to speak "a matter of form." This is allowable, but in g as to form, the merits of the case should not oduced. On this, however, as on every other there is a perpetual tendency to go out of order, nce the absolute necessity for appointing a chair- ell acquainted with the forms of public deliber- nd who has the strength of mind to insist on being preserved.

ll our public assemblages, a certain degree of y is used both among speakers and listeners. individual rising to speak, he addresses himself to the chairman, and the chairman in return mentions the name of the speaker; by which the audience is made acquainted with the gentle- he is about to address them. When the discus- f the meeting are over, the chairman closes the s with a few observations, and then dissolves the dy by leaving the chair. When any dispute in the course of the business of the meeting upon of form, it is customary to appeal to the usages House of Commons for an example to be followed.

DUTIES AS ELECTORS.

re are duties of another nature which we may be on to perform in our character of citizens. We ested with the high and solemn trust of electing presentatives in Parliament, as well as represen- in our municipal institutions. In the execution duty as electors, we are bound to divest ourselves factious or personal considerations. We have dly to consult our own good in making a choice presentative, but it is only as flowing from the f the *whole* community. We must hence act y without passion or prejudice. Let us examine vious habits of life, public conduct, and avowed ents, of candidates, and calmly consider whether m such as we can approve of, or as being con- with the general welfare of the people. We also recollect that we exercise the trust of s far many who do not possess that privilege. e proportion of the community consists of women

and children, persons in an humble condition, the sick, and the helpless. These look to us for protection from wrong, and it is our duty to afford it to them. If we, therefore, act with levity and imprudence in appointing men, who, from their conduct and character, are unfitted to exercise the important function of public representatives, we in more ways than one commit a crime against society, and are unworthy of possessing the valuable prerogatives with which the constitution has invested us.

In our capacity as citizens, we are frequently called upon to elect representatives in different municipal bodies; such as civic managers of the city in which we reside, managers of local trusts—general, political, and religious. There is often much heat at such elections; a petty factious spirit frequently governs the choice which is made: sometimes the meanest passions of our nature are exhibited during the contest. The observations we have made on our duties as electors generally, apply here with peculiar force. As those who present themselves as candidates live amongst us, we can never find any difficulty in estimating their character and qualifications. But we must take care not to be borne away by private feelings; we must not give our vote simply because the candidate is an acquaintance. A consideration for *what is best for the public interest* should in every case govern us; and we should not be afraid to let these our sentiments be known, for they can give no honourable man offence. In all cases of elections of members of civic corporations, and such like bodies, the chief merit in electors, after that of good and respectable character, is soundness of judgment, and after that, activity of habits. The power of fine speaking, or eloquence, is not required in such a functionary, and should be esteemed very lightly. That which is required is a power of thinking coolly, an integrity of purpose, and a willingness and ability in taking a share of the burdensome duties to be performed. Our qualifications as electors, perhaps, render us liable to be ourselves elected. In the event, therefore, of being called forward by our fellow-citizens to fill the honourable situation of their representative, it is our duty to sacrifice perhaps our own feelings and a portion of our time in the public service, provided we conscientiously consider ourselves qualified for the task, and that our health and private circumstances permit it. The principal question we have to put to ourselves, when we are so brought forward, is, "Have we sufficient time to spare to attend the various meetings—to sit and deliberate in the numerous committees—to have our minds frequently occupied with public affairs?" If we deceive ourselves in answering this important question, we wrong society, and give ourselves cause for much after disquietude. Is it, or not, the proper way for every one who is worthy of this trust, calmly, deliberately, and to the best of his knowledge and belief, to do those acts which will best preserve for his own use the beautiful fabric of our political institutions? If he perceives and rejoices in the good which he and others derive from it, will he not best perform his duties to those who come after him, to use it, and not abuse it, that they may have the like good? Little suggestions of selfishness, rivalry, and petty local interests, and, most of all, perverted and mischievous ambition, are the blocks over which citizens stumble and fall, in the otherwise luminous and clear path in which they are permitted to move.

DUTIES AS JURORS.

The laws under which we live give us the invaluable privilege of trial by jury; in other words, we are tried for the commission of offences by a body of men chosen indiscriminately, as nearly as convenient, from the class of society in which we have moved. By such a considerate regulation, there can be little risk of individual oppression, provided those who compose juries do their duty. It is therefore incumbent on citizens who are *liable to* serve in juries, to make themselves acquainted *with what is* understood to be their duty when so called upon. It requires no learning to fulfil the of a juror. It requires no more than a thinking, and a mind above being carried prejudices or feelings. The juror is to rem it is the jury which is the judge in the ca judges who sit on the bench. Keeping this in one of the chief qualities requisite in a jury its proper dignity and honour inviolate, an with all courtesy, and to act with firmness in tion of its important function. Besides d dispassionately on the evidence presented, duty of the juror to be totally regardless of sideration but that of strict justice. He is regard the rank of life of the culprit, nor of t party. In a court of jurisprudence all men equality. It is also the duty of the juror, afte his conscientious opinion, not to be coerced, or or spoken into a different opinion. He is inv a solemn trust, and that trust he must pres scrupulous care, as consonant with the dearest of society.

DUTIES AS NEIGHBOURS.

Besides the duties which we have to per members of a great nation, we have duties of a nature to perform as inhabitants of a town, or neighbourhood, and in relation to which w times receive the appellation of citizens. Every belongs to a neighbourhood, which is both i social. Even those who have removed into re tries, and who dwell in solitary abodes, do not sentiment of neighbourhood. The nearest pe them is a neighbour, though separated by long And when this sentiment cannot be preserved it may be in thought, and by that means it c so. Perhaps the last impressions that leave t of one who has wandered into far distant reg those made in his early days, in his native ha general, as every one lives in a neighbourhood less dense, he can promote his own happiness, of those around him, by observing a becomi conduct. He has a right to enjoy life, and to things which he has, to that end; but he has no to any enjoyment which necessarily disturbs others. Peace, tranquillity, and security with own walls, is the main purpose of life. No on right to interfere in these things but by order public law. A neighbour, therefore, who so c himself, and those means of pleasure which mands, as to vex, harass, and disturb those necessarily within sight, hearing, &c., com offence against morality. It often happens t pleasure of one who dwells in a dense neighbo to keep one or more animals, whose habits disturb those who necessarily dwell within he the hours allotted to repose, and frequently w sons are visited by sickness, and when any distressing. Now, whatever the rigid law of may say in such cases, the law of morality s the suffering party has an unquestionable remove his trouble, if the proprietor of the such nuisance will not, on request, remove it A more peaceable way would be, to have it rem order of the public magistrate. Many of su nuisances ought to be removable on summar application, and not in the slow, written, and process, in which the movements of ordinary commonly made.

The moral duties of neighbourhood exten things which minister to the common comfor nience, and security. Each one of a neighbo bound to make his own dwelling-place as agre pleasant to those around him as he reasona Each one is morally held to uphold and sustai name for his own little community. He is, t to join, with a liberal and manly feeling, in a provements which tend to please and adorn things, even if they occasion some expendi sources of self-satisfaction; and one comes at l

nourable pride in hearing his street, his village, wn, or city, commended by observers.

ere is another sort of neighbourhood which is led in social intercourse, and in the interchange of ng and hospitality. As the world now is, this is only regulated by artificial and somewhat unnarules. It is often ostentatious, luxurious, and de- of all feelings and thoughts in which well-trained minds can take pleasure. A profuse and volupentertainment, comprising food little adapted to ote health and vigour, and in quantity sufficient en times the number, that rather look at than me it, is an unsatisfying way of being happy in intercourse. There are modes of maintaining such ourse, which are innocent, pleasing, and dutiful. kind are fitted for such. The interchange of friendly for conversation, music, and rational amusement, such things as may be used without suffering or ring health, is that kind of neighbourhood (in such ons) which is permitted and enjoined. We have, ver, little reason to think that intimacies of this are likely to meet with such consideration as would e the further extension of them.

ery person, in general, is a member of some kind iety or association. Some persons belong to many. e are intended for some useful purpose. Every one such member has some duties to perform. He some proper part of his time, some proper contri- , to the common object, and has an interest in rosperity of the design. All these institutions do good, and some of them eminent good, in helping e great purpose of social life, which is general im- ement. Of this nature are public charities, edu- al institutions, libraries, agricultural societies, and for suppressing intemperance and immorality. No -disposed citizen can conscientiously abstain from g his aid and support to such objects. It is each duty to try to leave the world a little better than und it. No one can say these are matters which ot concern him. Suppose every one should say so, had said so from the beginning, society would still ade up of barbarians. Every good that is done y community affects, directly or indirectly, every ber of it. The law of example, of imitation, of doing hers do, has a most pervading and astonishing in- ce. Every community is like a full vessel of water; e drop in it can be moved without affecting every r drop.

DUTIES IN OUR DOMESTIC RELATIONS.

Marriage.—This institution is agreeable to a law of re, and is an ordinance of the Creator. There are ligates who have doubted this; but they have ex- ed no reason on their side. It is obvious that man t only a gregarious, but a pairing animal. Marriage consistent with the finest of his feelings—the most le of his faculties. It began when man began. It dered to perpetuate the succession of the human ly. It is ordered for the whole duration of adult — It is man's peculiar privilege in this; it connects with generations which are gone, with that which ssing away, and with those which are to come. The mory and the ashes of the dead are precious to him, no other animal has that sentiment. He alone con- plates that his own memory will be held in honour, that the place of his earthly quiet will be sacred. only is enabled to conceive that moral and physical g will bear his own stamp in the character and in frame of those that follow him; he only knows that od name may be an honourable inheritance. These the sentiments which spring from the beneficent of marriage. However much one may misunder- d or abuse this gift, nature, ever faithful to her , forces these sentiments on the heart.

arriage is recognised as a contract of a binding e in all civilised nations. By some it is considered, its solemnity, to be of a sacred character; by it is deemed only a civil bond of connexion. All, ever, agree in holding it to be an irrevocable contract. The laws of the land, those of nature, and the divine law, disclose the sentiments, the feelings, and the awful sense of duty with which this undertaking should be regarded. Yet it is frequently entered into from motives highly reprehensible, and sometimes with shocking thoughtlessness. It is from such causes that we see that this sacred union, which should be the true source of the highest human happiness, becomes that inexhaustible fountain from which both parties are daily and hourly compelled to drink, and from the same cup, the bitterest waters.

In a great number of instances, marriage is contracted with exceedingly little regard to the qualities of the mind on either side, particularly on the side of the man. If one could penetrate the ear of an enamoured youth, some good might come from such suggestions as these:—Do you know what will come of that engagement which you are about to make? Are you about to tie yourself by bands, absolutely indissoluble while you live, to a mortal who has feelings, wishes, wants, hopes, and fears, which must become yours, and a part of your very self; or which you must resist, control, or contend with? Do you know that pain, suffering, and sorrow, originating in either, must be borne by both? Are you aware that whatsoever of error, folly, or crime, may be chargeable to either of you, or to any who may spring from your contract, will be your common burden and shame; and that from these you can relieve yourself nowhere but in the grave? Or, do you know that this attractive being will be your kind friend; your counsellor; the welcome soother of your cares and anxieties; the generous and charitable judge of your infirmities; the inspirer of honourable ambition; your fellow-labourer in joint interests; the ornament of your life; the gracious, considerate, faithful, gentle companion, who will make your own virtuous home the place to which you refer all earthly happiness? Who that is "in love" has leisure or inclination to think of such *trifles* as these?

There is no reason why the passion of love should be wrapped up in mystery, nor any why the mind should be stained in considering its nature. It would prevent much and complicated misery in the world, if all young persons understood it truly. There are in every human being seeds, each one of which may be made to germinate, and may be so cultivated as to produce the most odious vices or the most serene and heavenly virtues. There is in every human heart a fund of kindness, tenderness, and affection, which makes itself known to be there in due time. It demands to be applied. This is the trying and perilous moment in youthful life. There is some one, some where, who will take that fund, and give back its full equivalent. The external senses and the heart are in search of that one. Happy will it be for the searcher, if he will take reason as a monitor to keep the senses and heart in order. But reason is commonly regarded, not as a kind and faithful friend, whose duty it is to whisper, "begin nothing of which you have not well considered the end," but as a withered scowling matron, who, being utterly dead to the impulses of youth, denies that there ought to be any. If there has been no preparation for this eventful period; if the mind has not been enriched with the teachings of rational prudence; if the eye has not been taught to distinguish between the real and the fictitious; if the ear has not learned to discriminate the meaning of sounds; if life as a whole, if the consequences of irrevocable deeds be not thought of, there is peril; and the pure drop from the fountain may flow into any sea but that of happiness. In seeking for that being who is to be a companion during life, one grievous failing must be avoided. Young men frequently amuse themselves by playing with the feelings of young women. They visit them often, they walk with them, they pay them divers attentions, and after giving them an idea that they are attached to them, they either leave them, or, what is worse, never come to an explanation of their sentiments. This is to act the character of a *dangler*, a character truly infamous.

Young men cannot be too cautious in the attentions which they bestow on unmarried females, who on their part should be equally guarded in not encouraging the addresses of any individuals whom they would not choose to marry.

According to the present state of society, one of the influential counteracting elements to marriage is, or ought to be, a high degree of prudence. No one ought to marry who cannot foresee that he will be able to support the additional expenses of a wife and family, and at the same time fulfil his other necessary obligations. By good management, these additional charges are not great, but they amount to something, and he is worse than an infidel who does not provide against them. We are of belief that every industrious, active, and sober man, will find no serious obstacle in this respect. It is from idleness, love of company, and intemperance, not from simple expenditure on family necessaries and comforts, that ruin and poverty in the married life are produced. The dread of encountering the expenses of a family, though acting as a salutary check on imprudent marriages, is frequently productive of many gross vices, tending to the injury both of individuals and of society. Celibacy, especially when circumstances would permit marriage, is not respectable; it is considered akin to vagrancy. He who marries and settles down as a householder, meets with the approbation of the world. Why is this? it may be asked. Because in marrying we give a guarantee to society for our good behaviour. It is not to be doubted that a young, well-educated, industrious couple, who are sincerely and affectionately attached, on a sober examination and conviction of each other's worth and suitability to each other, may be happy with means far short of the fashionable standard. Presuming that such a couple are wise enough to take life for the real and substantial good that it can produce —and as a whole, it would do them great injustice to suppose that they could not find that good in a small, simple, cheerful, tranquil mansion—it would be doing the friends of such a couple the like injustice to suppose that they could not visit them, and be satisfied to see them happy through such means.

According to the usages of society, it is the custom for the man to propose marriage, and for the female to refuse or accept the offer as she may think fit. There ought to be a perfect freedom of the will in both parties. To impose any species of constraint on either party is most mischievous; it would be a gross violation of our most sacred privileges. Both parties, therefore, ought freely to think for themselves, however much they may seek the advice of those who are inclined to afford them counsel.

In treating of this subject, it may be of service to offer a few special advices to young women. Our first recommendation is, that they ought to be in no haste to accept a lover. Let them know him a sufficient time to judge of his qualities of mind, temper, habits, &c., before they allow themselves to be inveigled into a marriage with him. Far better for them to remain single, than heedlessly incur the risk of being miserable during the remainder of their lives. In general, young women are much too anxious to involve themselves in this respect. The following observations on the injurious effects of making marriage the sole object of a young woman's thoughts, occur in a popular work by Mrs Farrar, and are well worth attention.

"Some one has said, that 'matrimony is with women the great business of life, whereas with men it is only an incident'—an important one, to be sure, but only one among many to which their attention is directed, and often kept entirely out of view during several years of their early life. Now, this difference gives the other sex a great advantage over you; and the best way to equalise your lot, and become as wise as they are, is to think as little about it as they do.

The less your mind dwells upon lovers and matrimony, the more agreeable and profitable will be your intercourse with gentlemen. If you regard men as intellectual beings, who have access to certain sources of knowledge of which you are deprived, a derive all the benefit you can from the attainments and experience—if you talk one rational being should with another, remind them that you are candidates for —you will enjoy far more than you can by them under that one aspect of possible futu and lovers. When that is the ruling and thought, you have not the proper use of you your manners are constrained and awkwa easily embarrassed, and made to say what is silly, and out of place; and you defeat your by appearing to a great disadvantage.

However secret you may be in these if you are continually thinking of them, and undue importance to the acquaintance of it will most certainly show itself in your m conversation, and will betray a weakness tha especial contempt by the stronger sex.

Since the customs of society have awar the privilege of making the first advan matrimony, it is the safest and happiest way to leave the matter entirely in his hands. be so educated as to consider that the g existence—preparation for eternity—may attained in married or single life, and tha but the most perfect one is at all desirab mony should be considered as an incident in if it come at all, must come without any of yours; and therefore you may safely p thoughts of it till some one forces the s your notice by professions of a particular you.

Lively, ingenuous, conversable, and cha girls, are often spoiled into dull, bashful, s ladies, and all because their heads are fu about beaux and lovers. They have a thousa and feelings which they would be ashamed though not ashamed to entertain; and the pation with a subject which they had better alone, prevents their being the agreeable a companions of the gentlemen of their a which they were designed to be.

Girls get into all sorts of scrapes by preoccupation of mind; they misconstru monest attentions into marks of particular r thus nourish a fancy for a person who has thought of them but as an agreeable ac They lose the enjoyment of a party, if eve are not there whom they expected to m become jealous of their best friends, if the there, and do not talk to them as much as every trifle is magnified into something of —a fruitful source of misery—and things portance are neglected for chimeras. And gratuitous pains-taking defeats its own ends! is all in vain; such girls are not the most po those who seem never to have thought about at all, are sought and preferred before th may add the advice, that young women consider it a serious misfortune even if nev there is nothing disreputable, while there m happiness, in the condition of an old maid.

HUSBAND AND WIFE.

Marriage having at length taken place b parties who feel a reasonable hope of be together for life, each has entered on a requiring the exercise of particular duties. shall endeavour to narrate, commencing wi

To Husbands.—"I. Always regard your w equal; treat her with kindness, respect, and and never address her with the appearance authority, as if she were, as some misguide appear to regard their wives, a mere house

II. Never interfere in her domestic con as hiring servants, &c.

III. Always keep her properly supplied for furnishing your table in a style

the Scylla of meanness and parsimony, avoid the Charybdis of extravagance.

If you be disposed to economise, I beseech you extend your economy to the wages you pay to ...ers or washerwomen, who, particularly the ...are too frequently ground to the earth by the ...acy of the wages they receive. Economise, if you ...shawls, bonnets, and handkerchiefs; but never, ...eting labour from the poor without adequate ...sation, incur the dire anathemas pronounced in ...ipturea against the oppressors of the poor.

...th Parties.—1. Should differences arise between ...d and *wife*, the contest ought not to be, as it unfortunately too frequently is, who shall display the most ...but who shall make the first advances, which ...o be met more than half way. There is scarcely ...prolific source of unhappiness in the married ...an this *spirit*, the legitimate offspring of odious ...nd destitution of feeling.

...erhaps the whole art of happiness in the married ...ight be compressed into two maxims—'Bear, ...bear;' and 'Let the husband treat his wife, and ...her husband, with as much respect and attention ...he would a strange lady, and she a strange ...an.'

I trust much caution is scarcely necessary against ...ns, well calculated to excite uneasiness, doubts, ...picions, in the heart of the husband or wife of ...ty who indulges in them, and to give occasion ...mmurious to make sinister observations; and it ...tunately too true, that the suspicion of misconduct produces fully as much scandal and evil as ...lity.

...a good rule of reason and common sense, that ...ld not only be, but appear to be, scrupulously ...in our conduct. And be it observed, that, however innocent the purposes of the parties may ...he commencement, flirtation too often leads to ...ous results. It breaks down some of the guards ...dge round innocence. The parties in these cases ...aptly compared to the moth fluttering around ...d candle, unaware of the impending danger. It ...burns its wings, and is thus mutilated for life. ...at loveth the danger, shall perish therein.' 'Lead ...into temptation' is a wise prayer; and while we ...t to be 'led into temptation,' we most assuredly ...ot to lead ourselves into it. I know these remarks will be charged to the account of prudery; but, ...risk of that charge, I cannot withhold them.

...Avoid all reference to past differences of opinion, ...ects of altercation, that have at a former day ...uneasiness. Remember the old story of the ...rd and the thrush. 'I insist it was a blackbird.' ...insist it was a thrush,' &c.

...preceding rules, if as closely followed as human ...ction will allow, can hardly fail to secure happiness. And should only one out of every ten readers ...y them, I shall be richly paid for their concoction.

...not conclude this brief essay better than by ...the following admirable advices of Julia de Roubigné ...her daughter, shortly previous to her death:—...etness of temper, affection to a husband, and ...n to his interests, constitute the duties of a wife, ...m the basis of matrimonial felicity. These are, ...the texts from which every rule for attaining ...city is drawn. The charms of beauty, and the ...ey of wit, though they may captivate in the mis...ill not long delight in the wife. They will shorten ...eir own transitory reign, if, as I have seen in ...ives, they shine more for the attraction of every ...e than of their husbands. Let the pleasing of ...a person be a thought never absent from your ...If he love you as you would wish he should, ...d bleed at heart should he suppose it for a moment withdrawn; if he do not, his pride will supply the ...love, and his resentment that of suffering. ...r consider a trifle what may serve to please him ...ater articles of duty he will not discern as his due

but the lesser attentions he will mark as favours; and, trust me, for I have experienced it, there is no feeling more delightful to one's self, than that of turning these little things to so precious a use.

Above all, let a wife beware of communicating to others any want of duty or tenderness she may think she has perceived in her husband. This untwists at once those delicate cords which preserve the unity of the marriage engagement. Its sacredness is broken for ever, if third parties are made witnesses of its failings or umpires of its disputes.'"*

FAMILY RELATIONSHIP.

The marriage state is the foundation of one of the most sacred and important institutions in society—that of a family. A family is a little commonwealth, jointly governed by the parents, but under the more special guardianship and direction of the husband and father, who is morally and legally the *head of the house*. To the father the children naturally look for protection, subsistence, advice, example, and encouragement. The father, therefore, has a serious obligation to perform in the proper rearing of his children. He is bound to educate them according to his means, to support them till they are able to depend on themselves, and to have them taught a business, or put in some other fair way of gaining an honest livelihood. The children, on the other hand, are bound to obey their parents, and to exert themselves to make them happy.

Parents are sometimes grievously distressed in consequence of the bad behaviour of their children. Their reasonable hopes are disappointed, their best feelings are tortured. An idle, ungrateful, dissolute son, is such a complicated cause of suffering, as may, if any thing may, lead one to murmur at the order of things. It may be admitted that such a parent is very likely to break out with complaints against the world. This suffering, however keen and biting it may be, is not a natural, but a moral evil. There is a moral wrong somewhere. Is it in the parent himself? Has he watched the beginning of error, and drawn his child off from the descending plane? But, perhaps, the downward course has been long begun upon, and art and deceit have made such progress that the child has been able to elude parental inquiry. This can hardly happen with a watchful parent while his child is under his own roof. Perhaps the downward course has been begun upon when a child is at a distant school, college, or in a place of business, preparing for manhood. If a parent has placed a child where he cannot superintend him, or with those who do not undertake to do this, or who will not if they do, the parent is not excused because others are in fault. A child who is sent away from home, is, as the world now is, always sent into some hazard. The hazard is, when least, that the preceptor, guardian, and master may be deceived. The seductions may be such as to plunge a boy into ruin, even before those who see him daily, and who mean to do their duty, have the least intimation of it.

Evils, such as are here alluded to, may be in some measure unavoidable in the present imperfect condition of society; still a parent ought to do all in his power to obviate them by implanting good habits in his children. It would be well, for instance, if fathers of families would endeavour to give their sons a taste for such a judicious course of reading as would lead them from the contemplation of vicious objects of pursuit. If they do so, and put them in a right bias, they may depend on them acquiring a great deal more useful knowledge after they leave school than they could possibly have learned there. Nearly all the men who have distinguished themselves in the world are found to have acquired their knowledge through private desultory study after leaving their classes; and many, in their autobiographies, trace their good fortune to the taste for reading given them by their parents.

A family of children usually consists of the t
There are brothers and sisters. The intercour
takes place between these parties ought to be of
friendly kind. They should strive, by mutu
ance and advice, to make each other happy.
instances, these relations make a very great m
to the real good of life, in not cultivating a co
affectionate friendship with each other. In
they are apt to be in each other's way, and to h
concilable wants; thus they very soon fall int
tions. They cannot, however, shake off the
nature. They must have an interest in ea
whether they will or not, and it will essentially
their mutual welfare to have a kind and grac
The common causes of their differences are
ingly insignificant, and often contemptible.
see the day when they will so think of them.
presses hard upon them when they will need
support, and some one to care for them in a
which none but brothers and sisters can do.
has gone on well from the cradle upwards, amo
relatives, they become to each other not only
useful friends, but the most agreeable com
They are the natural confidants, when it would
to trust any one whose sympathy and solicitu
change. Brothers and sisters, who are thus
together by affection, sometimes hazard the co
by volunteering friendly, but very unwelcome, co
taries and advice. This is a very delicate
Giving unasked advice on any occasion requir
great discretion. If one sees that his brother a
dering, there are many modes of so approachi
as to lead him to find that he needs advice, and
ting him in search of it. If there be a right
standing, he will go where he is sure of having th
and the sincerest. To assume a dictatorial aut
over a brother or sister, is to inflict a wound u
love which is not readily forgiven. We have al
noticed the value of civility and politeness betwee
near connexions; and we add, that sincerity and
are nowhere more profitable and necessary. "F
liarity breeds contempt" is a true saying, and is
apt to find an application of its truth not only in
intercourse of brothers and sisters, but in that w
more distant relations. We beg to warn all class
relations who frequently meet together, against
too much familiarity, against using too little reser
against taking liberties with each other. Let
preserve towards one another the most respectful
friendly terms, if they wish to avoid falling into
rences. Let them remember that the quarrels of
tions are almost irreconcilable, and that, even w
forgiven and in a great measure forgotten, they
very disagreeable feelings among all parties.

DUTIES OF MASTERS AND SERVANTS.

From the earliest ages down to the present
there have been different classes of society. As
where explained, this necessarily arises from the
order of society. The well-established and very
right of inheritance, and the ability which some
of society have to acquire, and which others have
the difference of education, and other obvious
necessarily produce these distinctions. Who among
various classes is the most contented and happy,
quite another matter. There must be some to
and some to be served. They are mutually depend
We hear great complaints, sometimes from masters
regard to their servants, and sometimes from serva
with regard to their masters or employers. This
nexion is regarded as one of the miseries of life;
it is not necessarily so. If the connexion
vexation, there must be error somewhere. We
first speak of the duties of masters, in which we
include those of mistresses.

It is the duty of masters to cultivate the esteem
affection of those whom circumstances have
under them. Servants have the same sort of

* The above excellent admonitions are from an American work, called the Philosophy of Common Sense, by Mr Carey.

d against every friendly appeal whatsoever.
ible, however, to be not altogether a churl,
take care lest we be tempted into an ever-
nevolence dangerous to ourselves, while it is
dvantage to our friends. Notwithstanding
ties which connect a man with society, he
ss bears largely imprinted on his forehead
al doom, that he must chiefly be dependent
n labour for subsistence. It is found by all
perience, that, in so far as one trusts to his
ions solely, he will be apt to flourish; and
s he leans and depends upon others, he will
erse. But there are many who do not recog-
principle. They trust only partially to them-
d are always poking about after large favours
nds. We find them asking loans of money,
ers to be surety for them, asking acquain-
interfere to get places for them. If they ask
g else, they intrude upon their friends to seek
Neither physically nor morally do they seem
ert themselves for their own behoof. This is
ptible a mode of living, that it cannot be too
eprehended. Those who depend on others can
eed in life. In whatever manner they may be
they can never become front-rank men in
We would earnestly impress upon the young
iety of depending as little as possible upon
of advantages from others, all of whom have
do with themselves. It is obviously the duty
ne to think and act for himself, as soon as he
nhood, and neither be burdensome on rela-
troublesome to acquaintances. The accep-
trifling favour from an acquaintance always
der an obligation, which is sometimes difficult
. If the acquaintance ever need similar
e feel bound to grant them, and perhaps he
the original favour so highly, that he thinks
do enough to serve him. In this way hun-
men are ruined. We would say, accept no
nless upon a principle of common courtesy.
ploy others to execute a piece of work, take
y them faithfully and promptly, and lie under
ion to them, otherwise you may be called upon
least expect it, to make payment an hundred-
liberal, affable, and kind; but, knowing that
t do more injury to society than by greatly
ourself, exercise a just caution in giving way
citations of your friends. Never be too ready
e yourself that it is right to involve yourself
order to help any person into a particular
society; rather let him begin at the bottom,
ll be all the better fitted for his place, when
it, by having fought his way up through the
ces.

MAKING A WILL.

listress among families is often produced by
a who have property to bequeath, not making
estament. Why such individuals do not make
, it is difficult to explain. Perhaps it arises
lessness and a spirit of procrastination, or a
solution in men to make up their minds with
how they would distribute their property at
ease. Some may indeed be so foolish as to
nat the making of their will would hasten the
of death. From whatever cause it proceeds,
hly blameable failing. It is the duty of every
ssessing property, whether engaged in busi-
herwise, to make a will, and describe in some
document how he would wish his affairs to
ed in the event of his dying. There certainly
in which men of property would not wish
sessions to be distributed in any other way
the law would dictate; yet it is a mark of a
lated mind to leave a will descriptive of the
be pursued in the accession to, and manage-
their property and concerns. To do so, it
uld often save a great deal of trouble and some
and be a preventive of litigation among

esteem for their husbands, to make their wills: that is, put in writing a simple expression of their desire that their husbands may inherit the property which belongs to the wife in virtue of their marriage. By an inattention to this easily performed duty, there are many litigations—many widowers ruined.

MISFORTUNES—EVILS.

Evil is a part of the system of things in which we live, and, as such, must be patiently submitted to. Man was intended to be an active creature. One of the grand aims of the Creator in his formation evidently was, that he should never settle down into a sluggish or stagnant state. It would have been easy for the divine power which breathed into him so wonderful a thing as life, to have surrounded him with nothing but blessings, as they are called, so that he would have nothing to do but enjoy himself. But this would not have produced what the Almighty wished, a world in which a rational being was to exercise his faculties, and use his endowments, with a proper regard to a certain end—an account, namely, to be rendered at the close, of what and how he had done. We are here placed between evils which we are to avoid or subdue, and good which we are to aim at and enjoy; and hence, instead of being a set of torpid machines, as we would have been in any thing like a world of perfect happiness, we are in a perpetual state of vigilance and activity, making the fullest use of those mental and bodily properties with which we have been gifted.

If we narrowly inspect the evils or misfortunes with which we are visited, we will find them invariably to be, either of two kinds. Some are the simple result of an occasional or habitual violation of the laws of nature, or an occasional or habitual failure in that vigilance and activity which we are bound to employ for the avoiding of such distresses. These may be called moral evils. The second class are the result of circumstances over which we had no control, and may therefore be called natural evils. Such a division, however, is only necessary in the present state of our attainments as a race; for there can be no doubt that means were intended to be discovered by the ingenuity of man, for the avoidance and neutralisation of all evils whatever; and, therefore, in the case of what we call

We are charged, for instance,
harassing ailment, or of an early de
gone and perhaps long repented v
But all this may be accounted for c
It has been intended that our mor
so much improved, that even the
a descendant may operate as a c
ness; and what is a contemporary
consumption but a warning to pr
that which may bring future l
hazard! It is hard, in the mean ti
but what can we say against the
Perhaps the spectacle (and few c
of a youth dying in his very bloom
natural debility derived from weal
the means of preventing two pe
themselves into the situation for
evils. A very high kind of conscie
not unattainable even by ordinary
force by the contemplation of such
distress. A man who has any re
validity of his own constitution, wi
with a sense of such results, as lik
quitting a condition of celibacy,
perpetual solitude rather than pu
ment of his own happiness, at the
onable evil to others. Fortunate
ning to look more narrowly into
used to do; and we do not despair
it will be nearly as infamous to cor
certain circumstances, as, under ot

There are other evils which affe
do their full part in making this a
is squalid, miserable poverty;
lamentable vice; there is horrible
tion, and national war. All these
inevitable; they spring from the
from the laws which compel him t
nexion. Those who say so are sh
world is naturally a beautiful wo
has made a paradise for our dwe
have often rendered a desert by th
and revelation alike proclaim that
we should be happy; but how h
vile intemperance, gross crime, a

h as they have, continues to act beneficially,
hought, through the nation; and they them-
d bound to sustain a certain honourable cha-
nsistent with their rank.

rinciples of human nature apply in a similar
in solving the mystery, why there are men
riches which they never wrought for, and may
erving of. Riches consist of that part of the
f the earth which can be used for human habi-
nd their appendages: of that part which can be
roduce vegetation; of that part over which, and
ch, there are flowing waters capable of impart-
on; they consist of all personal estate; and of
he agreed representative of all property, which
same time, property in itself. Possessions of
rious kinds are acquired by inheritance or by
. Right by inheritance is not wrong. Would
mal mind maintain, that, when the father of a
r any one who has no family, has acquired pro-
d dies, that it shall belong of right to any and
o can get possession, by fraud, force, or what-
her means they may? Society could not be held
If such were the rule of right. It is at once
, that if such were the rule, there would be
to contend for, because all inducement to
for the benefit of one's family and connexions
annihilated. Society would be forthwith re-
barbarism. The right to acquire, and the
inheritance, are wisely ordained to be a neces-
sequence of society, and one of its strongest
to act to useful ends.

irreconcilable to justice, to convenience, and
uman good, to take by fraud or violence that
e dead must have left behind them, much more
to take from the living, by like means, that
ey can honestly acquire by the exercise of their
stry. If a member of a community were li-
ble to be despoiled of the fruits of his labour,
principle of the system of being to which man
would have been misplaced: there would have
sufficient motive to action. If one would know
iety would be, if such were the law and the
as to property inherited or acquired, he must
ntries steeped in barbarism, and on which the
Christianity does not shine.

ontended by some persons that there should
odical division of land and property, and that
mber of the community shall have an equal
How often should this division be made? Shall
ds once a-year, once in ten years, once in fifty
Why should it be made at one time rather than
er? Suppose it could be made, and were made,
e but a very short time before it ought to be
ain, if the reason for making it be, that some
re and some less, and that some are rich and
r. One must be wilfully blind not to see that
e whole action of society must stop, or that in-
of condition would arise in a single year, per-
a single month; and even such inequality as
ll for a new division. In a country where the
enterprise and speculation has an unrestrained
he causes of regret are, that sad reverses occur,
property changes hands too often, rather than
s unreasonably held in the hands of a few of
cessors. A small number of generations is
ring equality, considering our community as a
g one. Thus, property comes and goes, in this
as fast as any one can reasonably desire to have
changes which are seen, as to the ownership
regulated by authority far wiser than any of
stitution.

ON FORMING OPINIONS.

n signifies belief. There are good and bad

It is our duty as rational beings to cultivate
correct opinions upon every subject, and to
those which are of a contrary description.
nothing more easy than to form hasty opinions,
but it is very difficult to form a correct

prophet. *We*, by our superior intelligence and reading, know that Mahomet was a vile impostor. The people who lived in our own country a hundred years ago were of belief that certain old women, whom they termed witches, could, by supernatural powers, raise tempests at sea and land, and malevolently interrupt the course of human affairs. The people who possessed this belief were perfectly conscientious in their opinion; yet *we* know that this opinion was a gross absurdity. *We* know that our ancestors believed in an impossibility. Opinion is therefore, as we see, a thing of time and place. The opinion that is supposed to be right in one century, is wrong in the next. What is considered to be a right opinion in Asia, is thought wrong in Europe. What is deemed a correct and praiseworthy belief in Britain, is reckoned an absurdity in France. Indeed, it is often seen that the opinion which is held good in one district of a country, is looked upon with contempt in other districts—so that the whole world is found to be covered, as it were, with a variety of opinions and shades of opinions, like the diversified colours by which countries are depicted in a map. Opinion, we have said, is also dependent on temperament of the body. This is a melancholy truth. A fat and choleric man does not think in exactly the same way as a lean man. A man who enjoys all the comforts which opulence can purchase, has a tendency to think differently in some things from a man who is suffering under misfortunes or poverty. So strangely constituted is the principle which governs opinion, that most men have reason to alter their opinions on many points in their progress through life. They form an opinion in youth, from which in manhood they depart, and form another; and this other they modify into something else as old age comes upon them.

What does all this wonderful contrariety of opinion teach us? Since we see that opinion is dependent on the locality of our birth, on the age in which we live, on the condition in which we may chance to be placed, and on the physical qualities of our bodies, have we therefore no power over opinion? Must we be its slave? These are questions of a solemn character, and

language of Scripture, these men war ag

It is our duty as good members of s
a view to self-respect, to be very cautio
tion, and, most of all, in the display o
Many excellent men, on arriving at m
deeply regretted that they should have
lished their early and hastily-formed op
They had reasoned, as they thought,
was without a knowledge of the world,
Speaking to the young, we would say—
the training of parents, guardians, aud
your duty to receive with confidence t
by which it is attempted to enlighten y
to put you in the way of well-doing. B
of your youth will probably tell you that
from under their guardianship into the
life, you become a responsible being—r
to human and divine laws; and that
think for yourself. At this critical peri
tence, you have every chance of coming
the idle, the dissipated, the frivolous,
make you embrace erroneous opinion
possibly put the most mischievous books
for perusal. Do not be led away by such
neither be dismayed by the number of
jesters who may assail you. Do your
In order that you may attain a correct
great debateable subjects that you will
your ears through life, begin a course o
good and authoritative works which int
will recommend to your notice. Take
nity of cultivating your understanding
your ideas, of banishing prejudices.
the different sides of a question; for
member that there are always many w
story. In proportion as you advance i
studies, and acquire a knowledge of th
conduct of mankind, you will more and
to form a correct opinion. There is o
you will learn with surprise from this
rience, and that is, that many, though h
opinions, are driving towards the same e

ision, beg to say a few words, in partiins of a political nature, which are the all to be correctly formed. Political pplied to the theory and practice of ment. The policy of national governexact science to be learned, as some It is more a fashion than a science. pendent on time, place, and other cirche form of government which suits one would not suit another age and country. e best governed by a despotism, others monarchy and democracy, others by a ism; but, as we say, what is best at one at another. The genius and necessities are subject to change, and consequently nts change with them. If we feel the cts, we will be cautious how we assume opinion upon any mode of administering The young are particularly liable to take this subject which they afterwards feel from. We would admonish them to the history of their country, and reflect enius of the nation, before they come to pinion in politics. They will learn, as maturity, that in nothing is there such ity and affectation as in political matters. fore called upon, by duty, to examine d probe deeply, the grounds upon which r opinion. They will find it much the is already expressed, to think lightly in they have had some experience of the en convinced by the evidence of their al exigencies sometimes call upon us to eply in politics at one time than another. t here be our guide; yet there is geneanger in our wasting much precious time quisition, than in falling into an apathy airs. He is a wise man who knows how steps as to preserve himself from falling reme. Every one who has been for a years politically busy, will acknowledge, thinks he was right in the main (in which y be right or wrong), yet, that he has sy hours and anxious thoughts on subooked back upon, are seen to have been nsignificant.

THE PEOPLE OF ONE COUNTRY OWE TO THOSE OF ANOTHER.

at all the people of the earth belong to e many nations with which it is covered. hat nations are generally separated from t only by language, manners, customs, forms of civil government, but also by oundaries. The division of mankind into ural, and possesses obvious advantages. nit beyond which the government of a well be administered. By being confined limited bounds, the national institutions ved, security and prosperity promoted, sts of the people advanced. We freat the people of one nation live at enmity another nation. We find many at open neighbours—that is, they are resorting ical force to settle a dispute. These are be deplored. Nations have mutual wants, al intercourse and trade will obviate. nilar interests at stake. Their inhabibelong to the great human family, and peace with each other. But ambition, l passions—strife, malice, and uncharicontinually in operation to retard their towards a universal philanthropy. Nahe heaviest curse which afflicts humanity. rmous debts and taxations, and in reality ng of all kinds of distresses among the the people have been frequently very war. We say *have been*, for we hope nent will in future be otherwise regulated. We ought to impress upon our minds a surpassing horror of war. Let us think of it as the scourge of the human race, and as one more destructive, physically and morally, than the most virulent epidemic. Were the inhabitants of countries duly impressed with these feelings, did they reflect upon the blessings which are showered upon nations during a lasting peace, they would henceforth resolve to oppose, by every constitutional means, the commencement of wars by their governments. Besides the actual loss of lives and of property to a nation during war, it is incalculable the injury sustained by society by such an infliction. A war of a few years' duration may retard intellectual improvement for a century. We hold, therefore, that it is the duty of every man to discountenance such a system of folly. He cannot be a lover of his country, he cannot be the friend of moral cultivation, who would countenance such an idiotic process of settling quarrels between intelligent nations. According to a rational view of men's condition in separate nations, war can in no case be reconcilable with social happiness, unless on the obvious principle of self-defence. So long as there remain such masses of ignorance over the earth, so long, we are afraid, force must be employed to preserve the little spots of civilisation from the flood of barbarism which might overrun them. May it be anticipated, however, that this urgent necessity will not exist much longer! How glorious would be the prospect, if universal peace were permanently established! We should find one nation instructing another in all the arts and sciences of which it was itself master: we should find an honourable spirit of emulation running through the whole; and all shaping their policy so as to promote the most beneficial intercourse in commerce, literature, and refinements. In the present state of things, as far as it can be accomplished, a kind and friendly international communion is a high moral duty. It is our duty to look with an eye of charity on national peculiarities. We have no right to insult the feelings of the people of any nation, however strange their language, their fashions, or their customs may appear to us. We have likewise no right to taunt them with any apparently improper characteristics in their forms of government. It is our duty to consider them as entitled to live and act according to their own fancy, as independent responsible beings. To write, print, and disseminate any scurrilous jests tending to lower them in general estimation, is not only immoral, but inconsistent with the principles of honour, which do not permit any one to be struck who cannot defend himself. When we therefore insult a foreign nation by our obloquy, we commit the mean and cowardly action of injuring a party which has no means of redressing the grievance.

RECREATIONS AND AMUSEMENTS.

We have often had occasion to show, that this state of being is one of alternate action and repose. There must be serious action, and there must be amusements. It was intended that mortals should be pleased and happy, if they deserve to be so. Those who maintain that life is to be an uninterrupted scene of labour and gravity, are, we hope and believe, entirely mistaken. We discern nothing in the natural world, nor in man's peculiar constitution or relations, which gives the least countenance to such an opinion. Amusement, like every thing else in which free agency is concerned, may be innocent and grateful, or improper, pernicious, and introductory of the worst of evils. Young persons must have the former, or they will seek out the latter. It is the duty and the interest of parents to lead children to take pleasure in such things as can be approved of, and to divert children from such as must be injurious to them, and afflictive to those who are deeply interested in them. We apprehend that there may be persons, and classes of persons, who will disagree with us on this subject, as they may have done on some which have been already touched upon. We should deeply regret to displease any one; but on a matter so impor-

but is trying to get rid of himself, and of time. The most captivating sports are those which are contingent; that is, sports or occupations wherein the result may be highly favourable or otherwise. No one engages in them without expecting to come out on the successful side. Hence, hunting, fishing, horse-racing, and gaming, are of this order. The hope of success is a very high excitement, but the mortification and distress of failure ever far exceed the pleasures of success. There is a tendency to discourage out-of-door sports. This is certainly wrong. If not carried to excess, they are among the most salutary and pleasing amusements in fine weather.

Every one admits that the mind and moral faculties are to be developed, and strengthened, and made to do the best, by exercise. This is equally true of physical power. Every action which it can be proper to do at all, ought to be done in the best way, otherwise we do not answer the end of our being. In the vegetable and animal departments, all proper care and cultivation tend to use and beauty. Is there any reason why the physical powers of man should not have care and cultivation to the same ends? Those who prefer a stooping, lounging, awkward, graceless figure and motion, may be on one side of the question; those who think that it was intended that man should be an upright, easy, frank, comely, and convenient being to himself, and pleasant to all within whose observation he may come, will be on the other.

Although the frame of man is so made as to permit him to assume an endless variety of positions, and to apply his strength in all of them, he does, or should, return always to an upright position. No essential deviation from this position can possibly be a natural one, but for a temporary purpose. This is proved by the framing of the human bones. This framing shows, that, when one walks, it was intended that he should be perpendicular; if he walk in an inclined position, he has not only to move himself, but to resist the power of gravitation at the same time. The muscles, in such case, have a strained and unnatural duty to perform. It seems to have been intended, by the same sort of proof, that human beings should walk with the lower limbs, that is, from the hips downward, and not with an

this gracious gift should be used, and (it as one mode of praise and thanksgiving innocent pleasure. Music is action; it some end; the end is innocent and de enjoyment has the double advantage of and social. Music may be made to prod high moral feeling, and it may be made feeling of very opposite character. Th must be applied to this subject as to al every thing was created, and for some purpose; and that every thing must act to some useful end, if human ignorance o interfere. We therefore contend that make music is to be cultivated, and its thankfully enjoyed.

It is consistent that man, as he is so other animals, should be alike superior and enjoying of musical sounds. He u so. His voice (it would be more proper t voice) includes all the sweet sounds whic by all other animals. He has, by cultivati by applying the atmosphere through the and by delicacy of touch, and by bringi in contact with each other, and by send through that wonderful work of his ow organ, found the means of rendering tribu High, and of softening and purifying hi No doubt, music was given to mortals for ment, and that it is their duty to take it and be thankful for it.

Games.—Games at cards are a very co ment. They may be innocent, but there is commend them. They give no action to th are a very humble occupation for an int Whether the chances in distributing fifty spotted pasteboard fifty successive time four hours, shall possess some of the eng tunate pieces, and others with unfortun hardly be said to be doing ahy thing to a When the sport is over, the thing proved is, that in this use of four hours of a short li so much, and B so much. This, howev and usually proposal in playing cards

would be amusing or useful. To be a skilful
nationist, one's eyes and ears should be busy;
should escape his observation. His memory
be a good one, and he should have a good-natured
ess to please, and to be pleased. It follows that
er of offence in conversation should be avoided.
f-love of others is to be respected. Therefore,
is tolerated who makes himself the subject of
commendation, nor who disregards the feelings
whom he addresses. There is as much demand
teness and civility in conversation as in any
partment of social intercourse. One who rudely
ots another, does much the same thing as though
uld, when walking with another, impertinently
himself before his companion, and step his pro-
Under favourable circumstances, and among
who know how to train a conversation, there
if any amusements more grateful to the human
We need not say any thing of the amusement
from reading. It is very properly one of the
d amusements of persons of all ages. The
e of the press on the character of a country is
e measured or calculated. It is strikingly true
admirable invention, as it is of so many other
n natural and moral agency, that, *well used*, it
estimable blessing; ill used, the corrupting
of social life. Happily, attention to the proper
f the young has required of the press its action
r benefit; not as to books of study only, but
f amusement.

RELIGIOUS OBLIGATIONS.

ion signifies a system of faith and worship. Reli-
ces from man's perception of his relation to the
of being of which he is a necessary part. The
e and influence of religion is to be felt and
ted throughout the duration of human life, in
is thought and done, with a view to a happier
e perfect state of existence after death. Just
ions of the character and attributes of the Deity
he utmost importance, especially to the young,
inds require to be led aright in all that pertains
reat truths of religion. The religion professed
country is Christianity—the most cheering, the
ble of all faiths. The books to which we point
ruction in the religion of Christ are those of the
New Testament. To them the instructors of
ng will direct the religious studies of those under
arge, as may best seem fit. Besides inculcating
a obligations, these works furnish us with the
rfect system of moral duty ever promulgated.
n of the earliest delivered moral law is compre-
in the Ten Commandments, which are as fol-
1. Thou shalt have no other gods before me.—
shalt not make unto thee any graven image,
likeness of any thing that is in heaven above,
is in the earth beneath, or that is in the water
he earth: Thou shalt not bow down thyself to
nor serve them: for I the Lord thy God am a
God, visiting the iniquity of the fathers upon
dren unto the third and fourth generation of
hat hate me, and showing mercy unto thou-
f them that love me, and keep my command-
—3. Thou shalt not take the name of the Lord
d in vain; for the Lord will not hold him
s that taketh his name in vain.—4. Remember
bath-day, to keep it holy. Six days shalt thou
and do all thy work: But the seventh day is
bath of the Lord thy God; in it thou shalt not
work, thou, nor thy son, nor thy daughter, thy
rvant, nor thy maid-servant, nor thy cattle, nor
anger that is within thy gates: For in six days
ade heaven and earth, the sea, and all that
is, and rested the seventh day: wherefore the
lessed the Sabbath-day, and hallowed it.—[By
ctice of Christians, the Sabbath has been trans-
to the first day of the week.]—5. Honour thy
and thy mother, that thy days may be long upon
d which the Lord thy God giveth thee.—6. Thou

shalt not kill.—7. Thou shalt not commit adultery.—8. Thou shalt not steal.—9. Thou shalt not bear false witness against thy neighbour.—10. Thou shalt not covet thy neighbour's house, thou shalt not covet thy neighbour's wife, nor his man-servant, nor his maid-servant, nor his ox, nor his ass, nor any thing that is thy neighbour's."

Such was the sum of the moral law, until Christ added to it a number of the most transcendently excellent admonitions, and which are found scattered throughout the history of his ministrations in the four gospels in the New Testament. The chief moral which he inculcated was, "Whatsoever ye would that men should do unto you, even so do unto them; for this is the law and the prophets." But the whole of his sayings breathe a similar spirit of benevolence and gentleness. He preached, for the first time that it had been done on earth, the doctrine of "peace and good-will towards men;" that is, universal love and peace among all mankind. "Ye have heard," said he, "that it hath been said, Thou shalt love thy neighbour, and hate thine enemy: but I say unto you, Love your enemies: bless them that curse you: do good to them that hate you: and pray for them which despitefully use you and persecute you." Again, he said, "Blessed are the poor in spirit, for theirs is the kingdom of heaven: blessed are they that mourn, for they shall be comforted: blessed are the meek, for they shall inherit the earth: blessed are they which do hunger and thirst after righteousness, for they shall be filled: blessed are the merciful, for they shall obtain mercy: blessed are the pure in heart, for they shall see God: blessed are the peacemakers, for they shall be called the children of God: blessed are they which are persecuted for righteousness' sake, for theirs is the kingdom of heaven: blessed are ye when men shall revile you, and persecute you, and shall say all manner of evil against you falsely for my sake." In this manner he taught the great necessity for being humble and lowly in spirit as the basis of all virtue and social happiness. He likewise inculcated, at different times, the necessity of putting away every thing like ostentation in doing good actions. He tells us not to give our alms before men, but to bestow them in secret; not to pray ostentatiously in public, but in a private place. No one, until he appeared, ever pointed out that there was no difference betwixt actual transgression and the wish to transgress. He tells us that sins of the heart are equally punishable with the commission of an offence. He likewise taught that men "cannot serve two masters," that is, do evil actions, however apparently trivial, and at the same time be good men. To break "the least of the commandments" is to be reckoned equivalent to breaking the whole; and it is further said, it is impossible that our oblations to God can be accepted of so long as we live at enmity with a brother; that is, having a quarrel with any one. "Leave thine offering before the altar, and go thy way; first be reconciled to thy brother, and then come and offer thy gift. Agree with thine adversary quickly, whilst thou art in the way with him." Who among us, may we ask, keeps this saying in remembrance? Do all who attend the public worship of God hold it in mind?

Again, he says that we are equally to avoid hypocrisy, or a pretence of self-righteousness and ability to show our neighbours their faults, before we have put away the same or other faults from ourselves. "Hypocrite, first cast the beam out of thine own eye, and then thou shalt see clearly to cast out the mote out of thy brother's eye. Judge not, that ye be not judged." How valuable are these reproofs! Continuing to admonish us of the danger of hypocrisy, he says that we shall know men by their fruits; that is, we shall know them by their actions, not their words. "A good tree cannot bring forth evil fruit, neither can a corrupt tree bring forth good fruit: therefore by their fruits ye shall know them. Not every one that sayeth unto me, Lord, Lord, shall enter into the kingdom of heaven; but he that doeth the will of my Father which is in heaven." We are likewise told that there must be no stop to the exercise of our forgiving of injuries. Being asked if we should forgive an injury for seven times, he said to those who asked him, "I say not unto thee, until seven times, but until seventy times seven;" by which we are to understand that there is to be no limit to our forgiveness. Of all things, we are told by St Paul, are essential Faith, Hope, and Charity, but that the greatest of these is Charity, or a disposition to think well of our neighbours whatever may be their actions. It is also frequently inculcated that charity is the first of the Christian virtues. Personifying it, it is said, "Charity suffereth long, and is kind; charity envieth not; charity vaunteth not itself, is not puffed up, doth not behave itself unseemly, seeketh not her own, is not easily provoked, thinketh no evil; rejoiceth not in iniquity, but rejoiceth in the truth; beareth all things, believeth all things, hopeth all things, endureth all things."

CONCLUSION.

We have now given an elucidation of what we consider to be the principal duties we are called on to perform during life, both to ourselves and to others. The subject is by no means exhausted, yet enough has been said to afford human beings a view of what they ought to follow in the pursuit of individual and social happiness. The object we held in view has been accomplished. We have, to the best of our ability, pointed out how rich and old, high and low, rich and poor, is to act in executing their temporal duties. We hope we have shown that if man be not a happy, a grateful, a gratified being, he must accuse himself, and not the Deity, or that the system of being to which he belongs is unkind and malevolent. We have attempted to prove that man, individually and socially, is capable of improvement; that he has removed himself from his original condition, and has advanced far in disclosing his powers, and in applying them in the promotion of his own happiness. But it has to be added, that there is still much farther to go in the same course, and that no way is known to him, and that there are no obstacles in it which he may not remove. We do not believe in the perfectibility of mankind. The crimes and miseries which affect even the most cultivated of our race tell us too plainly that there is a natural bias towards evil which it requires the utmost skill on the part of religion and reason to counteract. The passions exist only to stand as a barrier against human perfection. It is only by their due regulation that we can attain as much as comparative worldly happiness. What incalculable to what extent the exaltation of the faculties may be carried by systems of education, or to what extent the community may be purified of vices. Let us hope that nothing may occur to impede the physical, the intellectual, and moral improvement of society, which is now so happily in the way of improvement.

NOTE.—The former article was an abstract from the Class-Book of Mr William Sullivan, a work published in the United States. The present is partly original, selected from the same production. Excellent as Mr book is, it is singularly deficient in the inculcation of principal public duties of life, and is in many parts ad for the perusal of American readers. The heads in article, Duties as Subjects, as Electors, as Jurors, as Servants, Conduct at Public Meetings, Making a Will tures and Evils, Inequality of Rank, Duties which the one Country owe to those of another, Duty of Trusting to Religious Obligations, and Conclusion, are the compos of the Editors, as also a number of passages in other is humbly trusted that both numbers will be found t most complete as well as the most applicable body of on the moral duties ever given to the public; and that teachers of youth will find it available in their purpose lectual cultivation.

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LIFE AND MAXIMS OF FRANKLIN.

PARENTAGE AND BOYHOOD.

...AMIN FRANKLIN was born at Boston, in New Eng-..., North America, on the 17th January 1706, and ... the youngest but two of a family of seventeen chil-..., two daughters being born after him. His ances-..., as far as they can be traced back (at least three ...dred years), were petty freeholders at Eaton, in ...hamptonshire; but if we may judge by the sur-...e of the family—the ancient Norman appellative ...a country gentleman—we may conclude they had ...nally been of some consequence. After the Refor-...ion, the immediate progenitors of Benjamin con-...ed zealously attached to the Church of England till ...rds the close of the reign of Charles the Second, ...n his father Josias, along with his uncle Benjamin, ...me dissenters. These men were both bred to the ...e of silk-dyeing. Josias married early in life; and ...t the year 1682 he emigrated, with his wife and ...e children, to America, on account of the persecu-...n to which he was exposed for his dissenting prin-...es. On arriving in New England, he embraced the ...upations of soap-boiler and tallow-chandler, of which ...nesses he previously knew nothing, but only from ...e being at the time the likeliest to provide mainte-...ce for his increasing family. He appears to have ...n a man of great penetration and solid judgment; ...ent, active, and frugal; and although kept in con-...tive poverty by the expenses of his numerous family, was held in great esteem by his townsmen. In no respect was his practical good sense more conspicuous than in the education of his children; and his illustrious son frequently alludes, in terms of thankfulness and gratitude, to the many exemplary precepts and sound moral lessons he received while under the paternal roof. The following passage may be read with no little instruction by the heads and members of all families similarly circumstanced:—"He was fond of having at his table, as often as possible, some friends, or well-informed neighbours, capable of rational conversation; and he was always careful to introduce useful or ingenious topics of discourse, which might tend to form the minds of his children. By this means, he early attracted our attention to what was just, prudent, and beneficial in the conduct of life. He never talked of the meats which appeared on the table; never discussed whether they were well or ill dressed, of a good or bad flavour, high-seasoned or otherwise, preferable or inferior to this or that dish of a similar kind. Thus accustomed from my infancy to the utmost inattention to these objects, I have since been perfectly regardless of what kind of food was before me; and I pay so little attention to it even now, that it would be a hard matter for me to recollect, a few hours after I had dined, of what my dinner had consisted. When travelling, I have particularly experienced the benefit of this habit; for it has often happened to me to be in company with persons, who, having a more delicate because a more exercised taste, have suffered in many cases considerable inconvenience; while, as to myself, I have had nothing to desire." Benjamin was at first designed to be a clergyman, and at eight years of age was put to the grammar-school with that view, having previously been taught to read. His uncle Benjamin, who had likewise emigrated, encouraged this project. This individual appears to have been an equally eccentric and ingenious man. He cultivated the Muses with a success that gave himself, at least, entire satisfaction. But what he was most proud of was a species of short-hand of his own invention, wherewith he had carried off from the conventicles in England several volumes of sermons whole and entire; and these he designed for his nephew's stock in trade, when he should set up as preacher. But young Franklin had not been a year at school when his father perceived that his circumstances were quite inadequate to the expenses necessary to complete his son's education for the clerical profession. He accordingly removed him from the more learned seminary, and placed him under an humble teacher of reading and writing for another twelvemonth, preparatory to binding him to some handicraft trade.

APPRENTICESHIP.

When his term at school was expired, being then ten years of age, he was taken home to assist his father in

of nine years; that is, until he should reach the age of twenty-one.

The choice of this profession, as it turned out, was a lucky one; and it was made after much careful and correct observation on the part of the parent. He had watched his son's increasing fondness for books, and thirst for information, and that, too, of a solid and instructive sort; and he therefore judiciously resolved to place him in a favourable situation for gratifying this propensity in the youthful mind; while he would, at the same time, be instructed in a profession by which he could always independently maintain himself, in whatever quarter his fortunes might lead him, within the bounds of the civilised world. Franklin thus speaks of his early and insatiable craving after knowledge:—

"From my earliest years I had been passionately fond of reading, and I laid out in books all the money I could procure. I was particularly pleased with accounts of voyages. My first acquisition was Bunyan's collection, in small separate volumes. These I afterwards sold, in order to buy an historical collection by R. Burton, which consisted of small cheap volumes, amounting in all to about forty or fifty. My father's little library was principally made up of books of practical and polemical theology. I read the greatest part of them. There was also among my father's books Plutarch's Lives, in which I read continually, and I still regard as advantageously employed the time devoted to them. I found, besides, a work of De Foe's, entitled An Essay on Projects, from which, perhaps, I derived impressions that have since influenced some of the principal events of my life." It seems to have been lucky for himself and mankind that the last-named author's most celebrated work, Robinson Crusoe, did not fall into his hands at this period.

By his assiduity Franklin soon attained great proficiency in his business, and became very serviceable to his brother. At the same time, he formed acquaintance with various booksellers' apprentices, by whose furtive assistance he was enabled to extend the sphere of his reading. This gratification, however, was for the most part enjoyed at the expense of his natural rest. "How often," says he, "has it happened to me to pass the

of the name of Collins, who was like ately fond of books, and with whom and long arguments on various subject this circumstance, Franklin comment the dangerous consequences of acquiri habit, as tending to generate acrimon society, and often hatred betwixt the He dismisses the subject with the fo enough observation:—"I have since men of sense seldom fall into this err lows of universities, and *persons of educated at Edinburgh*, excepted!" Franklin and his companion having a an argument one day, which was mai sides with equal pertinacity, they parte ing it to a termination; and as they wer for some time, an agreement was made carry on their dispute by letter. This done; when, after the interchange of the whole correspondence happened hands of Franklin's father. After much interest, his natural acuteness enabled him to point out to his son how to his adversary in elegance of expressio and perspicuity. Feeling the justice of marks, he forthwith studied most anxi his style; and the plan he adopted for equally interesting and instructive.

"Amidst these resolves," he says, of the Spectator fell into my hands. lication I had never seen. I bought t read it again and again. I was enc thought the style excellent, and wishe power to imitate it. With this view I the papers, made short summaries of t period, and put them for a few days without looking at the book, endeavour essays to their due form, and to expre at length, as it was in the original, emp appropriate words that occurred to my wards compared my Spectator with t perceived some faults, which I correcte that I chiefly wanted a fund of words.

mes the satisfaction to think, that, in certain ulars of little importance, I had been fortunate h to improve the order of the thought or style; is encouraged me to hope that I should succeed ie in writing decently in the English language, was one of the greatest objects of my ambition."

it was not only by such rigorous self-imposed that this extraordinary man, even at so early an ndeavoured to chasten his mind, and make every l propensity subservient to his sense of duty. so began to exercise those acts of personal self- which the heyday of youth, the season for ani- njoyment, feels as the most intolerable of all ctions. Having met with a work recommending a able diet, he determined to adopt it. Finding, after days' trial, that he was ridiculed by his fellow- ers for his singularity, he proposed to his brother e the half of what was now paid by that relative s board, and therewith to maintain himself. No ion was, of course, made to such an arrangement; ie soon found that of what he received he was to save one-half. "This," says he, "was a new for the purchase of books, and other advantages ed to me from the plan. When my brother and orkmen left the printing-house to go to dinner, nained behind; and dispatching my frugal meal, frequently consisted of a biscuit only, or a slice ead and a bunch of raisins, or a bun from the y-cook's, with a glass of water, I had the rest of me till their return for study; and my progress in was proportioned to that clearness of ideas and ness of conception which are the fruits of tempe- in eating and drinking."

other remarkable instance of the resolute way in he set about making himself master of whatever rement he found more immediately necessary to t the moment, is the following:—Having been put blush one day for his ignorance in the art of cal- on, which he had twice failed to learn while at , he procured a copy of Cocker's Arithmetic, and hrough it all, making himself completely master of re turning his mind to any thing else! He soon also, gained some little acquaintance with geome- y perusing a work on navigation. He mentions, se, his reading about this time Locke's Essay on derstanding, and the Art of Thinking, by Messrs rt Royal. Having found, in some essay on rhe- nd logic, a model of disputation after the manner rates, which consists in drawing on your oppo- by insidious questions, into making admissions militate against himself, he became excessively f it, he says, and practised it for some years with success, but ultimately abandoned it, perceiving could be made as available to the cause of wrong t of right, while the prime end of all argument convince or inform.

ut three years after Franklin went to his appren- p, that is to say, in 1721, his brother began to newspaper, the second that was established in ca, which he called the New England Courant: e previously established was the Boston News . The new publication brought the most of the of Boston about the printing-office, many of were contributors; and Franklin frequently ard them conversing about the various articles ppeared in its columns, and the approbation with particular ones were received. He became am- s to participate in this sort of fame; and having n out a paper, in a disguised hand, he slipped it the door of the printing-office, where it was found morning, and submitted, as usual, to the critics they assembled. "They read it," he says; "com- d on it in my hearing; and I had the exquisite are to find that it met with their approbation; and n the various conjectures they made respecting thor, no one was mentioned who did not enjoy a reputation in the country for talent and genius. supposed myself fortunate in my judges, and to suspect that they were not such excellent writers as I had hitherto supposed them. Be this as it may, encouraged by this little adventure, I wrote and sent to press, in the same way, many other pieces which were equally approved—keeping the secret till my slender stock of information and knowledge for such performances was pretty completely exhausted." He then discovered himself, and had the satisfaction of finding he was treated with much more respect by his brother and his friends than heretofore.

The two brothers, however, lived together on very disagreeable terms, in consequence of the hasty and overbearing temper of the elder; and Benjamin anxiously longed for an opportunity of separating from him. This at last occurred. His brother was apprehended and imprisoned for some political article which offended the local government, and upon his liberation was prohibited from ever printing his newspaper again. It was therefore determined that it should be published in Benjamin's name, who had managed it during his brother's confinement with great spirit and ability. To avoid having it said that the elder brother was only screening himself behind one of his apprentices, Benjamin's indenture was delivered up to him discharged, and private indentures entered into for the remainder of his time. This underhand arrangement was proceeded in for several months, the paper continuing to be printed in Benjamin's name; but his brother having one day again broken out into one of his violent fits of passion, and struck him, he availed himself of his discharged indentures, well knowing that the others would never be produced against him, and gave up his employment. Franklin afterwards regretted his having taken so unfair an advantage of his brother's situation, and regarded it as one of the first *errata* of his life. His brother felt so exasperated on the occasion, that he went round all the printing-houses, and represented Benjamin in such a light that they all refused his services.

PROCEEDS TO PHILADELPHIA.

Finding he could get no employment at Boston, as well as that he was regarded with dislike by the government, he resolved to proceed to New York, the nearest town in which there was a printing-office. To raise sufficient funds for this purpose, he sold part of his library; and having eluded the vigilance of his parents, who were opposed to his intention, he secretly got on board of a vessel, and landed at New York on the third day after sailing.

Thus, at the age of seventeen, Franklin found himself three hundred miles from his native place, from which he was in some sort a runaway, without a friend, or recommendation to any one, and with very little money in his pocket. To complete his dilemma, he found, on applying, that the only printer then in the town could give him no employment. That person, however, recommended him to go to Philadelphia, where he had a son, who, he thought, would give him work; and he accordingly set off for that place. His journey was a most disastrous one both by water and land, and he frequently regretted leaving home so rashly. He reached his destination at last, however, and in a plight which certainly did not bode over-auspiciously for his future fortunes. His own graphic description of his condition and appearance, on his first entrance into Philadelphia, is at once interesting and amusing:—

"I have entered into the particulars of my voyage, and shall in like manner describe my first entrance into this place, that you may be able to compare beginnings so unlikely with the figure I have since made. I was in my working dress, my best clothes being to come by sea. I was covered with dirt; my pockets were filled with shirts and stockings; I was unacquainted with a single soul in the place, and knew not where to seek a lodging. Fatigued with walking, rowing, and having passed the night without sleep, I was extremely hungry, and all my money consisted of a Dutch dollar, and about a shilling's worth of coppers, which I gave to the boatmen for my passage. At first they refused

[illegible] I was [illegible] [illegible] [illegible]

t-paid work: so that, with his frugal mode of living, quickly laid past money.

RETURNS TO AMERICA.

After having been about eighteen months in London, ich to his advantage in every respect—for, besides coming more proficient in his business, he had stuck his books as sedulously as ever, even although he frently went to the play, made little pleasure excurns, and mingled a good deal in society—he was about set out on a tour through Europe, with a young elligent fellow-workman (designing to maintain themves during their pilgrimage by means of their calling), en he accidentally met with Mr Denham, before iced as being his fellow-passenger from America. at gentleman was on the eve of returning to Philaphia, to open a merchant's store, and offered Frankthe situation of his clerk, with a salary of £50 per nnm. This sum was less than he was making as a mpositor; but an anxious desire to revisit his native ntry induced him to accept of it. They set sail accorgly—Franklin now supposing he had relinquished composing-stick for ever—and arrived at Philadelia on the 11th of October 1726. Franklin had just tered his twenty-first year at this time; and he mens having drawn up for himself in writing, during voyage, a plan for the regulation of his future conct. This interesting document was afterwards unrtunately lost; but he tells us himself that he pretty thfully adhered to the rules thus early laid down, en into old age. Upon his arrival, he found that his l acquaintance, the governor, had been supplanted in office, and was held in general contempt. They met veral times, but no allusion was ever made by Franklin the disgraceful imposture the other had practised on n.

Franklin's new employer had only been in business a few months, when both were seized at the same me with a violent disorder, which carried off the ster in a few days, and brought the clerk to the brink the grave. On his recovery, being thus once more t destitute, he was fain to accept employment as a inter from his old master Keimer, who was now somehat better off in the world, but still utterly ignorant his profession. The whole charge of the office, with at of instructing four or five ignorant apprentices, volved on Franklin. "I also," says he, "upon occan, engraved various ornaments, made ink, gave an e to the shop—in short, I was, in every respect, the *totum*." But he likewise, at this time, gave another markable instance of his versatile ingenuity.

"Our press," says he, "was frequently in want of e necessary quantity of letter, and there was no such ade as that of letter-founder in America. I had seen e practice of this art at the house of James, in London, but had at the time paid it very little attention. however, contrived to fabricate a mould. I made use such letters as we had for punches, founded new ters of lead in matrices of clay; and thus supplied, a tolerable manner, the wants that were most pressg." Franklin's inventive mind would seem here to ve obtained a distant glimpse of the principle of *stetyping*, which has since been carried to such a height usefulness and perfection, as exemplified in the varis publications of the editors of this miscellany.

Keimer having engaged Franklin solely with the view having his apprentices so far initiated in the art as at he could dispense with their instructer's services, ok the first occasion to quarrel with him when he ought he had sufficiently attained his object. Upon eir separation, one of Keimer's apprentices, named eredith, who, like all the others, had conceived a eat veneration for Franklin, proposed that they should ter into partnership together—Meredith's friends untaking to furnish the capital necessary for purchasg the materials, &c. This offer was too advantageous be refused, and types, press, &c., were forwarded mmissioned from London; but while preparing to t their plan into execution, Franklin was informed

during the interval, to return again to Keimer, at the urgent solicitation of the latter. The motive for this humble entreaty was that individual's having taken a contract for the printing of some paper-money for the state of New Jersey, requiring a variety of new cuts and types, which he knew well nobody in that place but Franklin could supply. This also presents us with a very striking instance of Franklin's remarkable gift of invention.

"To execute the order," says he, "I constructed a copperplate printing-press—the first that had been seen in the country. I engraved various ornaments and vignettes for the bills, and we repaired to Burlington together, where I executed the whole to the general satisfaction, and he (Keimer) received a sum of money for this work which enabled him to keep his head above water for a considerable time longer."

At Burlington, Franklin formed acquaintance with all the principal personages of the province, who were attracted by his superior abilities and intelligence. Amongst these was the inspector-general, Isaac Decon, "who," says Franklin, "was a shrewd and subtle old man. He told me that his first employment had been that of carrying clay to the brickmakers; that he did not learn to write till he was somewhat advanced in life; that he was afterwards employed as underling to a surveyor, who taught him his trade; and that, by industry, he had at last acquired a competent fortune. 'I foresee,' said he, 'that you will soon supplant this man (speaking of Keimer), and get a fortune in the business at Philadelphia.' He was wholly ignorant at the time of my intention of establishing myself there, or any where else."

ENTERS INTO BUSINESS.

Franklin had scarcely returned from Burlington, when the types commissioned for himself and Meredith, from London, arrived; and having settled matters with Keimer, the partners immediately took a house, and commenced business. They were in the act of opening up their packages, when a countryman came in to have a job done; and as all their cash had been expended in their various purchases, "this countryman's five shillings," says Franklin, "being our first fruits, and coming so seasonably, gave me more pleasure then any crown I have since earned." A number of young men having, during the preceding year, formed themselves, at Franklin's suggestion, into a weekly club for the purpose of mutual improvement, they were so well pleased with the beneficial results they experienced from their meetings, that, when the originator of their society set up in business, every one exerted himself more than another to procure him employment. One of them obtained from the Quakers the printing of forty sheets of a history of that sect, then preparing at the expense of the body. "Upon these," says Franklin, "we worked exceeding hard, for the price was very low. It was in folio, upon *pro patria* paper, and in the *pica* letter, with heavy notes in the smallest type. I composed a sheet a-day, and Meredith put it to press. It was frequently eleven o'clock at night, sometimes later, before I had finished my distribution for the next day's task; for the other little jobs that came in kept us back in this work; but I was so determined to compose a sheet a-day, that one evening, when my form was imposed, and my day's work, as I thought at an end, an accident broke the form, and deranged two complete folio pages. I immediately distributed and composed them anew before I went to bed." This unwearied industry, which soon became known, acquired Franklin great reputation and credit amongst his townsmen, and business began rapidly to flow in upon them.

STARTS A NEWSPAPER.

The establishment and management of a newspaper seems to have all along been a favourite project with Franklin; probably because, from his former experience in it, and the consciousness of his powers of writing, he felt himself so well adapted for the task. The partners soon found themselves in circum[stances] enable them to make the trial; but Franklin incautiously divulged their intention to a third that individual informed their old master Ke the fact, who immediately took steps to anticipa and issued a prospectus of a paper of his ow manner in which Franklin met and defeated this tr is exceedingly characteristic. There was anothe published in Philadelphia by Mr Bradford, wh been in existence for some years, but was such rable affair, that it only preserved its vitality no other arose to knock it on the head. In o keep down Keimer's publication, however, F saw the policy of supporting the old one until p to start his own. He thereupon set about w series of amusing articles for it, which the pu Bradford, was of course very glad to insert. " means," says Franklin, "the attention of the pub kept fixed on that paper, and Keimer's proposals we burlesqued and ridiculed, were disregarde began his paper, however; and, after continuing nine months, having at most not more than nine scribers, he offered it to me for a mere trifle. for some time been prepared for it; I therefo stantly took it upon myself, and in a few years it very profitable to me." In fact, it obtained re and applause at the very first number, in conse of some observations therein by Franklin, on portant colonial question; and various mem Assembly exerted themselves so well in his that the printing of the House was speedily tran from Bradford to his two young rivals. In the m ment of his newspaper, Franklin pursued a sys unflinching integrity. He steadfastly refused t admission into his columns of any article con personal abuse of particular individuals. Wh he was requested to publish any thing of this so answer was, that he would print the piece by itse give the author as many copies for his own distri as he wished. He very wisely considered that h scribers expected him to furnish them with use entertaining information, and not with personal s or private discussions with which they had no co

COMMENCES BUSINESS BY HIMSELF.

Luckily for Franklin, almost at the commence of the newspaper, an opportunity occurred of getti of his partner Meredith, who had become a drunken fellow, and had all along been of compara little use in the concern. Meredith's father fai implement the bargain for advancing the nec capital to pay the demands of the paper-merchan other expenses necessarily attending their speed when they became due. A suit was accordingly tuted against the partners; and as Meredith's declared his inability to pay the amount of the upon them, the son offered to relinquish the whol cern into Franklin's hands, on condition that the would take upon him the debts of the company, his father what he had already advanced, settle h little personal debts, and give him thirty pounds new saddle! By the kindness of two friends, wh known to each other, came forward simultaneous unasked to his assistance, Franklin was enabl accept the offer. The agreement was carried into and thus do we find this extraordinary man, at th of twenty-four, and in the place where he had a penniless only seven years before, settled down in ness, with a thriving trade; proprietor of an exten circulated newspaper, and a firmly established re tion of no ordinary kind. All this success, ha the result of his own good conduct, perseverance frugality, had no undue effect on his well-regu mind, or could induce him to assume those airs of gant superiority and pretension, which have be frequently blemished the character of those who praiseworthily achieved their own elevation in so On the contrary, he dressed more plainly, and dep himself more humbly, than ever; and to show th

above his business, he sometimes wheeled home rrow, with his own hands, the paper which he ed at the stores.

after getting the whole printing and newspaper into his hands, there was an outcry among the for a new emission of paper-money. Franklin the cause, and by his arguments in a pamph- h he published on the subject, contributed so to the success of the proposal, and obtained him- much popularity, that upon its being resolved the notes, Franklin was selected to print them. n opened a stationer's shop, and from his suc- business, began gradually to pay off his debts. hile, his old master Keimer went fast to ruin, th the exception of old Mr Bradford, who was id did not care for business, he was the only in the place. He shortly afterwards married tead, the lady named in a former part of this . Franklin's behaviour to this young lady had n altogether blameless. Previous to his sailing gland, he had exchanged pledges of affection with et, all the while he was away, he only sent her ter. Her friends and herself concluding that he never meant to return, or that he wished to drop ion with her, she was induced to accept the hand her suitor, and on his return to America Frank- nd her married—an event that seems to have im extremely little uneasiness. The lady's hus- proved a great rogue, deserted her, and it was uently ascertained that he had still a former wife

After being established in business, and rising world, the intimacy between Franklin and her was renewed, and it was not long ere, despite abious situation, they hazarded a fulfilment of arly vows. The lady was about Franklin's own nd proved, according to his own testimony, "an r and a blessing" to him.

1731, Franklin drew up proposals for a public iption library at Philadelphia, being the first t of the sort that had been started in America. persons at first subscribed forty shillings each, reed to pay ten shillings annually; and the esta- ent was put under such judicious rules of ma- ent, that in the course of ten years it became nable and important as to induce the proprietors themselves incorporated by royal charter. This r afforded its founder facilities of improvement of he did not fail to avail himself, setting apart, as s us, an hour or two every day for study, which ie only amusement he allowed himself. Several companies were formed in the city in imitation of the whole were finally united in one institution. e for reading was thus spread around, and libra- ere formed throughout Pennsylvania.

nklin was much gratified by the success of his ie, and continued by his example to encourage of industry in the young, and to raise a taste for y and other rational recreations. We now find it the early age of twenty-five or twenty-six, fairly rked in life as a tradesman, citizen, and a lover rary and scientific pursuits. His first considera- vas scrupulous attention to business and to his . He took care, he says, not only to be *really* rious and frugal, but also to avoid every ap- nce to the contrary—was plainly dressed, and ever seen in any place of amusement: never went ing or hunting; his only relaxation being in a at chess, of which he was very fond. He devoted eater part of his leisure time to self-examination nprovement. On instituting a rigorous examina- nto his conduct and character, he found that he sed many faults, which he resolved upon amend- ie even conceived the bold idea of seeking to attain *perfection*. With the view of carrying this pro- nto execution, he fell upon the device of metho- ; his time during the twenty-four hours of every and of laying down certain rules by which he d regulate his conduct and sentiments. He rose n the morning; the next three hours he appropri- ated to devotional exercise, study, cleaning of the person, and breakfast. From 8 till 12 he was at work. From 12 till 2 he read, did any desultory duties, and dined. From 2 till 5 he was again at work. From 6 till 10, he devoted to reading, conversation, intercourse with his family, and supper; and from 10 till 4 or 5 in the morning, to sleep; after which he arose and pursued the same routine as before. We thus see that early rising was a leading feature in his habits of life, and to this alone he doubtless owed much of his success.

Franklin's arrangement of his time was less remark- able than his plan of self-examination. We have said that he established certain rules for the regulation of his conduct. These were thirteen in number, and were called by him virtues or precepts to be kept in remem- brance: they are thus summed up:—Temperance; silence, or abstaining from frivolous talking; order; resolution, or determination to perform promises and duties; frugality; industry; sincerity, or avoiding of all deceit; justice, or the wronging of no one; modera- tion; cleanliness; tranquillity of mind; chastity; and humility, in which was included an endeavour to imi- tate Christ, and also Socrates. It is mentioned by Franklin, that it required a constant care to avoid in- fringing upon these precepts, and that at length, to assist himself, he prepared a book to serve as a journal of his conduct and thoughts, in which he took pains to mark every error he committed. By this means he was able to observe how he advanced in virtue, and how far he abstained from error: it was his anxious wish to see the tables in his book free from any markings or indi- cations of imperfection of character. To this journal of his conduct he attached certain mottoes; one of which was a verse from the Proverbs of Solomon, in which wisdom is eulogised:—"Length of days is in her right hand, and in her left riches and honour. Her ways are ways of pleasantness, and all her paths are peace." Another of his mottoes was in the form of a pious aspiration or prayer, in which he implored the divine blessing on his labours, and an increase of that wisdom which was most beneficial to him. One of his favourite passages, which he occasionally repeated, was the beautiful address to the Deity in Thomson's poem on the Seasons:—

> "Father of light and life, thou God supreme!
> Oh teach me what is good; teach me thyself!
> Save me from folly, vanity, and vice,
> From every low pursuit; fill my soul
> With knowledge, conscious peace, and virtue pure,
> Sacred, substantial, never-fading bliss!"

He tells us that the most troublesome part of his prescribed task of self-regulation, was the obligation to preserve order in his line of duties—being most likely liable to distraction by trifling circumstances constantly interfering to mar his project. Neverthe- less, he persevered, forced himself to be methodic, and was thus able to proceed with studies tending greatly to his mental improvement, and his increase in useful knowledge.

Of Franklin's intercourse with his family little has been made known, though it is ascertained, by a few scattered hints in his writings, that he was an affection- ate husband and father, and placed much of his happi- ness in home. In his household affairs the most exact economy prevailed, and, for several years after his mar- riage, his breakfast consisted simply of bread and milk, which he ate from a twopenny earthenware porringer, with a pewter spoon. Fortunately, his wife was as much disposed to be industrious as he was; she assisted him in his business, folded the sheets of books which he printed, kept his shop, and executed other humble but useful duties. By following this industrious and eco- nomical plan of living, they gradually accumulated wealth, and were enabled to possess comforts and luxu- ries which were at first beyond their reach. Still, Franklin was not puffed up by prosperity, but continued to live in a style of simplicity agreeable to the notions he had formed at the outset of his career.

In conducting his business, he happily united the oc-

cupation of a printer with the profession of an author, and thus became the publisher of his own literary productions. No large work, however, was given by him to the world. His writings were chiefly of a minor character, such as detached pamphlets on subjects of local import, and short essays; and he did not, as it appears, write much that has been thought worthy of republication in a succeeding age. His newspaper was the Pennsylvania Gazette, which had been started by Keimer in 1728, and which, after about a twelvemonth's mismanagement, had come into the possession of Franklin and Hugh Meredith. By Franklin's ingenuity, the paper rose in general estimation.

Besides editing his newspaper, he conducted and published an almanack, which he began in 1732, and continued for a period of twenty-five years. This almanack bore the feigned name, Richard Saunders, and hence acquired the title of Poor Richard's Almanack, by which it became extensively known. The leading feature of the work consisted in an array of concise maxims and apothegms of an economical character, distributed here and there throughout the calendar, wherever space was left betwixt the names of the holidays. When Poor Richard's Almanack was brought to a close, a considerable number of the maxims were collected in an Address to the Reader, in the last number, and entitled The Way to Wealth. This admirable digest has been since translated into various languages, and is now widely known. We here subjoin a copy:—

THE WAY TO WEALTH.

I stopped my horse lately where a great number of people were collected at an auction of merchants' goods. The hour of sale not being come, they were conversing on the badness of the times; and one of the company called to a plain, clean old man, with white locks, "Pray, Father Abraham, what think ye of the times? Won't these heavy taxes quite ruin the country? How shall we ever be able to pay them? What would you advise us to?" Father Abraham stood up, and replied, "If you have my advice, I'll give it to you in short: 'for a word to the wise is enough: and many words won't fill a bushel,' as poor Richard says." They joined in desiring him to speak his mind; and, gathering round him, he proceeded as follows:—

"Friends (says he) and neighbours, the taxes are indeed very heavy; and if those laid on by the government were the only ones we had to pay, we might more easily discharge them: but we have many others, and much more grievous to some of us. We are taxed twice as much by our idleness, three times as much by our pride, and four times as much by our folly; and from these taxes the commissioners cannot ease or deliver us, by allowing an abatement. However, let us hearken to good advice, and something may be done for us: 'God helps them that help themselves,' as poor Richard says in his Almanack.

It would be thought a hard government that should tax its people one-tenth part of their time, to be employed in its service; but idleness taxes many of us much more, if we reckon all that is spent in absolute sloth, or doing of nothing, with that which is spent in idle employments, or amusements that amount to nothing. Sloth, by bringing on diseases, absolutely shortens life. 'Sloth, like rust, consumes faster than labour wears; while the key often used is always bright,' as poor Richard says. 'But dost thou love life? then do not squander time, for that's the stuff life is made of,' as poor Richard says. How much more than is necessary do we spend in sleep! forgetting that 'the sleeping fox catches no poultry, and that there will be sleeping enough in the grave,' as poor Richard says. 'If time be of all things the most precious, wasting time must be (as poor Richard says) the greatest prodigality, since, as he elsewhere tells us, 'Lost time is never found again; and what we call time enough, always proves little enough.' Let us then up and be *doing* to the purpose: so by diligence shall we do more with less perplexity. 'Sloth makes all things difficult, but industry all easy,' as poor Richard says; and 'He that riseth late must trot all day, and shall scarce overtake his business at night; while diligence comes leisurely and looks fresh; for laziness travels so slowly, that poverty soon overtakes him,' as we read in poor Richard; who adds, 'Drive thy business, let not that drive thee;' and,

> 'Early to bed, and early to rise,
> Makes a man healthy, wealthy, and wise.'

So what signifies wishing and hoping for better times? We make these times better if we better ourselves. 'Industry needs not wish,' as poor Richard says, 'and he that lives upon hope will die fasting.' 'There are no gains without pains; then help, hands, for I have no lands: or if I have, they are smartly taxed;' and, as poor Richard likewise observes) 'He that hath a trade hath an estate, and he that hath a calling hath an office of profit and honour;' but then the trade must be followed at, and the calling well followed, or neither the estate nor the office will enable us to pay our taxes. If we are industrious, we shall never starve; for as poor Richard says, 'At the working-man's house hunger looks in, but dares not enter.' Nor will the bailiff nor the constable enter; for 'Industry pays debts, while despair increaseth them,' says poor Richard. What though you have found no treasure, nor has any rich relation left you a legacy? 'Diligence is the mother of good luck,' as poor Richard says: and 'God gives all things to industry: then plough deep while sluggards sleep, and you will have corn to sell and to keep,' says poor Dick. Work while it is called to-day; for you know not how much you may be hindered to-morrow, which makes poor Richard say, 'One to-day is worth two to-morrows;' and, further, 'Have you something to do to-morrow, do it to-day.' 'If you were a servant, would you not be ashamed that a good master should catch you idle? Are you, then, your own master? be ashamed to catch yourself idle,' as poor Dick says. When there is so much to be done for yourself, your family, and your gracious king, be up by peep of day. 'Let not the sun look down, and say, Inglorious here he lies!' Handle your tools without mittens; remember that 'The cat in gloves catches no mice,' as poor Richard says. It is true, there is much to be done, and perhaps you are weak-handed; but stick to it steadily, and you will see great effects; for continual dropping wears away stones, and by diligence and patience the mouse ate into the cable; and 'light strokes fell great oaks,' as poor Richard says in his Almanack, the year I not just now remember.

Methinks I hear some of you say, 'Must a man afford himself no leisure?'—I will tell thee, my friend, what poor Richard says. 'Employ thy time well, if thou meanest to gain leisure; and since thou art not sure of a minute, throw not away an hour.' Leisure is sweet for doing something useful; this leisure the diligent man will obtain, but the lazy man never; so that, as poor Richard says, 'A life of leisure and a life of laziness are two things.' Do you imagine that sloth will afford you more comfort than labour? No; for, as poor Richard says, 'Troubles spring from idleness, and grievous toils from needless ease: many without would live by their own wits only; but they break for want of stock.' Whereas industry gives comfort, plenty, and respect. 'Fly pleasures, and they'll follow you; the diligent spinner has a large shift; and now I have a sheep and a cow, every body bids me good morrow:' all which is well said by poor Richard.

But with our industry, we must likewise be steady, and settled, and careful, and oversee our own affairs with our own eyes, and not trust too much to others, for, as poor Richard says,

> 'I never saw an oft-removed tree,
> Nor yet an oft-removed family,
> That throve so well as one that settled be.'

And again, 'Three removes are as bad as a fire;' and again, 'Keep thy shop, and thy shop will keep thee;' and again, 'If you would have your business done, go; if not, send.' And again,

'He that by the plough would thrive,
Himself must either hold or drive.'

, 'The eye of the master will do more work
his hands:' and again, 'Want of care does
mage than want of knowledge:' and again,
ersee workmen is to leave them your purse
usting too much to others' care is the ruin
for, as the Almanac says, 'In the affairs of
men are saved not by faith, but by the want
a man's own care is profitable; for,' saith
, 'Learning is to the studious, and riches to
l, as well as power to the bold, and heaven to
is.' And, further, 'If you would have a faith-
t, and one that you like, serve yourself.' And
adviseth to circumspection and care, even in
st matters, because sometimes 'A little neglect
l great mischief;' adding, 'For want of a nail
as lost; for want of a shoe the horse was lost;
nt of a horse the rider was lost:' being over-
slain by the enemy, all for want of care about
oe nail.

h for industry, my friends, and attention to
business; but to these we must add frugality,
ld make our industry more certainly success-
an may, if he knows not how to save as he
p his nose all his life to the grindstone, and
rth a groat at last.' 'A fat kitchen makes a
as poor Richard says; and,

r estates are spent in the getting;
women for tea forsook spinning and knitting,
men for punch forsook hewing and splitting.'

would be wealthy (says he in another Alma-
k of saving, as well as of getting: the Indies
made Spain rich, because her outgoes are
an her incomes.'

hen, with your expensive follies, and you will
nuch cause to complain of hard times, heavy
chargeable families; for, as poor Dick says,

omen and wine, game and deceit,
ake the wealth small, and the want great.'

her, 'What maintains one vice would bring
ildren.' You may think, perhaps, that a little
little punch now and then, diet a little more
nthes a little finer, and a little entertainment
then, can be no great matter; but remember
Richard says—'Many a little makes a mickle:'
er, 'Beware of little expenses; a small leak
a great ship:' and again, 'Who dainties love
ars prove:' and moreover, 'Fools make feasts,
men eat them.'

ou are all got together at this sale of fineries
nacks. You call them *goods*; but if you do not
, they will prove *evils* to some of you. You
ey will be sold cheap, and perhaps they may
an they cost; but if you have no occasion for
y must be dear to you. Remember what poor
ays—'Buy what thou hast no need of, and ere
shalt sell thy necessaries.' And again, 'At
nnyworth pause a while.' He means, that per-
cheapness is apparently only, or not real, or
in, by straitening thee in thy business, may do
e harm than good. For in another place he
any have been ruined by buying good penny-

Again, as poor Richard says, 'It is foolish
money in a purchase of repentance;' and yet
is practised every day at auctions, for want
ng the Almanac. 'Wise men (as poor Dick
rn by others' harms, fools scarcely by their
t *Felix quem faciunt aliena pericula cautum.*'
ople, for the sake of finery on the back, have
a hungry belly, and half starved their fami-
k and satins, scarlet and velvets (as poor Rich-
), put out the kitchen fire.' These are not the
es of life; they can scarcely be called the con-
s; and yet, only because they look pretty, how
nt to have them! The artificial wants of man-
s become more numerous than the natural;
poor Dick says, 'For one poor person there
are a hundred indigent.' By these and other extravagances, the genteel are reduced to poverty, and forced to borrow of those whom they formerly despised, but who, through industry and frugality, have maintained their standing; in which case it appears plainly, 'A ploughman on his legs is higher than a gentleman on his knees,' as poor Richard says. Perhaps they have had a small estate left them which they knew not the getting of; they think 'It is day, and will never be night; that a little to be spent out of so much is not worth minding.' 'A child and a fool (as poor Richard says) imagine twenty shillings and twenty years can never be spent; but always taking out of the meal-tub, and never putting in, soon comes to the bottom:' then, as poor Dick says, 'When the well is dry, they know the worth of water.' But this they might have known before, if they had taken his advice: 'if you would know the value of money, go and try to borrow some; for he that goes a-borrowing goes a-sorrowing, and, indeed, so does he that lends to such people when he goes to get it in again.' Poor Dick further advises, and says,

'Fond pride of dress is sure a very curse:
Ere fancy you consult, consult your purse.'

And again, 'Pride is as loud a beggar as Want, and a great deal more saucy.' When you have bought one fine thing, you must buy ten more, that your appearance may be all of a piece; but poor Dick says, 'It is easier to suppress the first desire than to satisfy all that follow it.' And it is as truly folly for the poor to ape the rich, as the frog to swell in order to equal the ox.

'Vessels large may venture more,
But little boats should keep near shore.'

'Tis, however, a folly soon punished; for 'Pride that dines on vanity sups on contempt,' as poor Richard says. And in another place, 'Pride breakfasted with Plenty, dined with Poverty, and supped with Infamy.' And, after all, of what use is this pride of appearance, for which so much is risked, so much is suffered? It cannot promote health, or ease pain; it makes no increase of merit in the person; it hastens misfortune.

'What is a butterfly? At best
He's but a caterpillar drest;
The gaudy fop's his picture just,'

as poor Richard says.

But what madness must it be to run in debt for these superfluities! We are offered, by the terms of this sale, six months' credit, and that perhaps has induced some of us to attend it, because we cannot spare the ready money, and hope now to be fine without it. But, ah! think what you do when you run in debt. You give to another power over your liberty. If you cannot pay at the time, you will be ashamed to see your creditor; you will be in fear when you speak to him: you will make poor, pitiful, sneaking excuses, and by degrees come to lose your veracity, and sink into base downright lying; for, as poor Richard says, 'The second vice is lying; the first is running in debt.' And again, to the same purpose, 'Lying rides upon debt's back;' whereas, a freeborn Englishman ought not to be ashamed nor afraid to speak to any man living. But poverty often deprives a man of all spirit and virtue. 'It is hard for an empty bag to stand upright,' as poor Richard truly says. What would you think of that prince, or that government, who would issue an edict, forbidding you to dress like a gentleman or gentlewoman, on pain of imprisonment or servitude? Would you not say that you were free, have a right to dress as you please, and that such an edict would be a breach of your privileges, and such a government tyrannical? And yet you are about to put yourself under that tyranny when you run in debt for such dress! Your creditor has authority at his pleasure to deprive you of your liberty, by confining you in jail for life, or by selling you for a servant, if you should not be able to pay him. When you have got your bargain, you may perhaps think little of payment; but 'Creditors (poor Richard tells us) have better memories than debtors;' and in another place he says,

'Creditors are a superstitious sect, great observers of set days and times.' The day comes round before you are aware, and the demand is made before you are prepared to satisfy it; or if you bear your debt in mind, the term which at first seemed so long, will, as it lessens, appear extremely short. Time will seem to have added wings to his heels as well as at his shoulders. 'Those have a short Lent (saith poor Richard) who owe money to be paid at Easter.' Then since, as he says, 'The borrower is a slave to the lender, and the debtor to the creditor,' disdain the chain, preserve your freedom, and maintain your independence: be industrious and free; be frugal and free. At present, perhaps, you may think yourselves in thriving circumstances, and that you can bear a little extravagance without injury; but

> 'For age and want save while you may,
> No morning sun lasts a whole day,'

as poor Richard says. Gain may be temporary and uncertain; but ever, while you live, expense is constant and certain; and 'It is easier to build two chimneys, than to keep one in fuel,' as poor Richard says. So 'Rather go to bed supperless than rise in debt.'

> 'Get what you can, and what you get hold;
> 'Tis the stone that will turn all your lead into gold,'

as poor Richard says. And when you have got the philosopher's stone, surely you will no longer complain of bad times, or the difficulty of paying taxes.

This doctrine, my friends, is reason and wisdom; but, after all, do not depend too much upon your own industry, and frugality, and prudence, though excellent things; for they may be blasted without the blessing of Heaven: and therefore ask that blessing humbly, and be not uncharitable to those that at present seem to want it, but comfort and help them. Remember Job suffered, and was afterwards prosperous.

And now, to conclude, 'Experience keeps a dear school; but fools will learn in no other, and scarce in that; for it is true we may give advice, but we cannot give conduct,' as poor Richard says. However, remember this, 'They that will not be counselled cannot be helped,' as poor Richard says; and further, that 'If you will not reason, she will surely rap their knuckles.'"

Thus the old gentleman ended his harangue. The people heard it, and approved the doctrine, and immediately practised the contrary, just as if it had been a common sermon; for the auction opened, and they began to buy extravagantly, notwithstanding all his cautions and their own fear of taxes. I found the good man had thoroughly studied my Almanacs, and digested all I had dropped on those topics during the course of twenty-five years. The frequent mention he made of me must have tired every one else; but my vanity was wonderfully delighted with it, though I was conscious that not a tenth part of the wisdom was my own, which he ascribed to me, but rather the gleanings that I had made of the sense of all ages and nations. However, I resolved to be the better for the echo of it; and though I had at first determined to buy stuff for a new coat, I went away, resolved to wear my old one a little longer.

As Franklin advanced in worldly prosperity, he endeavoured to make his personal acquirements keep pace with his upward progress in society; and amongst other accomplishments, applied himself sedulously to the study of the dead and modern languages, of which, besides his native tongue, he as yet scarcely knew any thing. The following is his own account of his private *curriculum*:—

"I had begun in 1733 to study languages. I soon made myself so much a master of the French, as to be able to read the books in that language with ease. I then undertook the Italian. An acquaintance, who was learning it, used often to tempt me to play chess with him. Finding this took up too much of the time I had to spare for study, I at length refused to play any game unless on this condition, that the victor in every game should have a right to impose a task, either of some part of the grammar to be got by heart, or in translations, &c., which tasks the vanquished was to perform upon honour before our next meeting. As we played pretty equally, we thus beat one another into that language. I afterwards, with a little painstaking, as much of the Spanish as to read their books. I have already mentioned that I had only a common school education, and that when I was about ten years old, after which I neglected that language entirely. But when I had attained an acquaintance with the French, Italian, and Spanish, I was surprised to find, on looking over a Latin Testament, that I understood more of that language than I had imagined, which encouraged me to apply myself again to the study of it; and I made great progress therein, the more success, as those preceding languages had greatly smoothed my way."

CIVIC PREFERMENTS AND DUTIES.

It was not to be supposed that a man of Franklin's comprehensive mind, and useful practical talents, would be allowed to remain long in the ranks of the people. Accordingly, in the year 1736, he was appointed clerk to the General Assembly at Pennsylvania. The appointment was made to his appointment the first on the next election, a new member of the house, on his return in a long speech. Franklin was again elected, much to his satisfaction; for the place was one of almost no direct emolument, but gave him an opportunity of making friends among the members, and ultimately to secure to himself the printing of most of the public papers, which was then shared with his rivals. The new member who resisted his re-election was a man of talent and character; and Franklin, although too independent to any cringing servility to him, perceived the importance of gaining his good opinion; and the experience upon for this purpose affords another instance of the shrewdness and knowledge of human nature learned that the gentleman possessed a very curious book, he wrote him a polite note, that he would do him the favour of lending days. The book was immediately sent; and a week was returned by the borrower, with epistle, expressive of his gratitude for the member was so much conciliated by the civility that the next time he met him in the house, he him with great civility; manifested ever a great desire to serve him; and they became intimate friends. "This is another instance Franklin, "of the truth of an old maxim I which says, 'He that has done you a kind more ready to do you another than he who self have obliged.' And it shows how much fitable it is prudently to remove, than to and continue, inimical proceedings." He was re-elected to the same post, without opposition several years successively. In the following he supplanted his rival in trade, Bradford, of deputy-postmaster for the state of P These honourable preferments induced him his thoughts to, and take a more active part affairs than he had hitherto done.

He first turned his attention to a state police, which was then in a shameful condition he soon effected a thorough reformation system. He suggested and promoted the of a fire insurance company, the first that in America. He afterwards successively self in organising a philosophical society, for the education of youth, and a militia for of the province. In short, every department civil government, as he tells us, and almost time, imposed some duty upon him. "Th says he, "put me into the commission of the corporations of the city chose me one of council; and the citizens at large elected burgess to represent them in assembly. station was the more agreeable to me, at length tired with sitting there to hear the which, as clerk, I could take no part, and

n so uninteresting, that I was induced to amuse elf with making magic squares, or circles, or any g, to avoid weariness; and I conceived my becoming ember would enlarge my power of doing good. I id not, however, insinuate that my ambition was not ared by all these promotions—it certainly was: for idering my low beginning, they were great things e; and they were still more pleasing as being so y spontaneous testimonies of the public good opinion, by me entirely unsolicited."

bout this period (1739), the celebrated preacher itfield arrived at Philadelphia from Ireland. He at first permitted to preach in some of the town rches; but the clergy soon took a dislike to him, l he was compelled to exercise his eloquence in the streets or fields. This circumstance, however, all displays of persecution in matters exclusively ected with private opinion, only rendered him the popular; and the effects of his oratory speedily ifested themselves.

It was wonderful," says Franklin, "to see the ge soon made in the manners of our inhabitants. a being thoughtless or indifferent about religion, rmed as if all the world were growing religious, so one could not walk through the town in an evening ut hearing psalms sung in different families of r street; and it being found inconvenient to mble in the open air, subject to its inclemencies, the ding of a house to meet in was no sooner proposed, persons appointed to receive contributions, than ient sums were soon received to procure the ground erect the building, which was one hundred feet and seventy broad; and the work was carried on much spirit as to be finished in a remarkably short "

leaving Philadelphia, Mr Whitfield went, preach- l the way, through the colonies to Georgia. The rnment of that province had then been recently menced, and was attempted by people entirely unfit uch an experiment. They were unable to endure fatigues and hardships of their situation, and ied in great numbers, leaving many helpless chil- with nothing to feed or clothe them. "The sight eir miserable situation," says Franklin, "inspired benevolent heart of Mr Whitfield with the idea of ding an orphan house there, in which they might be orted and educated. Returning northward, he ished up this charity, and made large collections; his eloquence had a wonderful power over the rts and purses of his hearers, of which I myself an instance. I did not disapprove of the design; as Georgia was then destitute of materials and rmen, and it was proposed to send them from Phi- phia at a great expense, I thought it would have better to have built the house at Philadelphia, and ght the children to it. This I advised; but he was tute in his first project, rejected my proposal, and erefore refused to contribute.

happened soon after to attend one of his sermons, e course of which I perceived he intended to finish a collection, and I silently resolved he should get ing from me. I had in my pocket a handful of per, three or four silver dollars, and five pistoles in As he proceeded, I began to soften, and con- ed to give the copper. Another stroke of his ora- made me ashamed of that, and determined me to the silver; and he finished so admirably, that I tied my pocket wholly into the collector's dish, gold all!"

t this time there was no military defensive force in sylvania. The inhabitants were mostly Quakers, neglected to take any measures of precaution nst the dangers to which, from the French posses- s in Canada, they were continually exposed. All xertions of the governor of the province to induce Quaker assembly to pass a militia law, proved in- tual. Franklin thought something might be done subscription among the people; and to pave the for this, he wrote and published a pamphlet called "Plain Truth." In this he clearly exposed their helpless and perilous situation, and demonstrated the necessity of co-operating for their mutual defence. The pamphlet had a sudden and surprising effect. A meeting of the citizens was held, at which proposals of the intended union, previously drawn up and printed by Franklin, were distributed about the room, to be signed by those who approved of them; and when the company separated, it was found that above twelve hundred signatures had been appended to the papers. Other copies were distributed through the province, and the subscribers at length amounted to upwards of ten thousand! All these individuals furnished themselves, as soon as they could, with arms; formed themselves into companies and regiments; chose their officers, and had themselves regularly instructed in military exercises. The women made subscriptions amongst themselves, and provided silk colours, which they presented to the companies, embellished with devices and mottoes furnished by Franklin. Such influence has one master-mind amongst his fellows in a time of emergency!

Franklin's modesty, however, was more than commensurate with his patriotism. The officers of the companies composing the Philadelphia regiment unanimously chose him for their colonel, but he declined the office in favour of a man of greater wealth and influence, who, on his recommendation, was immediately elected. These exertions of Franklin procured him great confidence from the governor and council, who consulted him on all their public measures. Notwithstanding, too, of the passive principles of the Quakers, it was soon seen that the precautions of military defence were any thing but disagreeable to them. A distinguished individual of their number, Mr Logan, published an address declaring his approbation of defensive war, and supporting his opinion by able and elaborate arguments.

This gentleman, who came over from England when a young man, as secretary to the famous William Penn, used to relate an anecdote respecting his old master, which is sufficiently amusing. During their voyage, they were chased by an armed vessel, supposed to be an enemy. Their captain prepared for defence, but told Penn and his company of Quakers that he did not expect their assistance, and that they might retire into the cabin. This notification they all complied with, excepting Logan, who remained on deck, and was quartered to a gun. The supposed enemy proved a friend, so that there was no fighting; but when the secretary carried the joyful news for his friends in the cabin, Penn reproved him severely for staying on deck, and lending his assistance in defence of the vessel, as being a breach of the principles of their society. Logan, nettled at this comment on his courageous conduct, which was made before the whole company, replied, "I being thy servant, why did thee not order me to come down? but thee was willing enough that I should stay and help to fight the ship, when thee thought there was danger!"

ELECTRICAL DISCOVERIES.

It would, perhaps, have been desirable to have followed Franklin through the remainder of his public and political career, without pausing to advert to other pursuits, entirely unconnected therewith, to which he devoted himself. We find, however, that the chronological violence of which we would in that case necessarily be guilty, would only serve to confuse our narrative. We will now, therefore, proceed to introduce him to our readers in an entirely new character from any in which they have yet seen him; for, in the language of the poet, his truly was

> "A mind so various that he seemed to be
> Not one, but all mankind's epitome."

Down to the close of the sixteenth century, all that was known of the principle of electricity was the discovery of a power inherent in amber,* and one or two other

* The term electricity is derived from the Greek word *electron*, amber.

annals of electricity for the accidental discovery of the possibility of accumulating large quantities of the electric fluid, by means of what was called the Leyden jar, or phial. M. Cuneus, of that city, happened one day, while repeating some experiments which had been originally suggested by M. Von Kleist, Dean of the Cathedral in Camin, to hold in one hand a glass vessel, nearly full of water, into which he had been sending a charge from an electrical machine, by means of a wire dipped into it, and communicating with the prime conductor, or insulated non-electric, exposed in the manner we have already mentioned to the action of the excited cylinder. He was greatly surprised, upon applying his other hand to disengage the wire from the conductor, when he thought that the water had acquired as much electricity as the machine could give it, by receiving a sudden shock in his arms and breast, much more severe than any thing of the kind he had previously encountered in the course of his experiments. The same thing, it was found, took place when the glass was covered, both within and without, with any other conductors than the water and the human hand, which had been used in this instance; as, for example, when it was coated on both sides with tinfoil, in such a manner, however, that the two coatings were completely separated from each other, by a space around the lip of the vessel being left uncovered. Whenever a communication was formed by the interposition of a conducting medium between the inside and outside coating, an instant and loud explosion took place, accompanied with a flash of light, and the sensation of a sharp blow, if the conductor employed was any part of the human body. The first announcement of the wonders of the Leyden phial excited the curiosity of all Europe. The accounts given of the electric shock by those who first experienced it are perfectly ludicrous, and well illustrate how strangely the imagination is acted upon by surprise and terror, when novel or unexpected results suddenly come upon it.

The extraordinary phenomena of the Leyden jar, soon, of course, attracted the attention of Franklin, and his inquisitive mind set itself to find out the reason of such strange effects, which astonished and perplexed the ablest philosophers of Europe. Out of his speculations arose the ingenious and beautiful theory of the action of the electric influence which is known by his name, and which has ever been received as the best, because the simplest and most complete, demonstration

fying him, only restored him to h
prove this still farther, he insul
one of whom he made to rub th
other drew the electricity from it
were both affected; the one havi
electricity to the cylinder in rub
had drawn from it. In proof of
touch one another, when both we
to their usual state. The spark p
tact was also greater than that w
either of them was touched by an
From these results, then, Fran
theory, that every body in nature
of electricity, which may be dimin
the way we have just described.
he regarded the body as *negatively*
tively, electrified. In the one ca
other more, than its natural quan
either, therefore, supposing it to
tricity and common matter, the
balance between its two constitue
the time upset or destroyed.

But to return to the Leyden ph
contented with merely ascertainin
He made also a very happy applic
which afforded a still more wonder
had yet been obtained of the po
electricity. Considering the wast
the common experiment, of the f
the process of charging, from the
conceived the idea of employing i
surface of a second jar, which he
the simple expedient of drawing
metal rod communicating with th
tricity expelled from the outside
conveyed, in like manner, into the
in this way, a great number of ja
the same facility as a single one.
nected all the inside coatings with
all the outside coatings with anot
bring these two general conductor
munication, in order to discharge
tion at once. This contrivance h
Battery. The general sketch we
put the reader in possession at le
lines of the Franklinian theory of
edly one of the most beautiful
found in the whole compass of sci

ct consequence of the fundamental principle of
n theory, according to which the repulsive ten-
of the particles of electricity towards each other,
ioning the fluid to retire, in every case, from the
or to the surface of bodies, drives it with especial
towards points and other prominences, and thus
rs its escape through such outlets; while, on the
hand, the more concentrated attraction which the
r of a pointed body, as compared with that of a
one, exerts upon the electricity to which it is pre-
d, brings it down into its new channel in a denser
m. In possession, however, of the fact, we find
oncluding the paper we have mentioned as fol-
—"The electric fluid is attracted by points. We
t know whether this property be in lightning;
ace they agree in all the particulars in which we
ready compare them, it is not improbable that
agree likewise in this. Let the experiment be

of this idea, his attention was one day drawn to
which a boy was flying, and it suddenly occurred
that here was a method of reaching the clouds
able to any other. Accordingly, he immediately
large silk handkerchief, and, stretching it over
ss sticks, formed in this manner his simple appa-
for drawing down the lightning from its cloud.
after, seeing a thunder storm approaching, he
walk into a field in the neighbourhood of the
n which there was a shed, communicating his
ons, however, to no one but his son, whom he
ith him to assist him in raising the kite: this was
e 1752.

kite being raised, he fastened a key to the lower
nity of the hempen string, and then insulating it
aching it to a post by means of silk, he placed
f under the shed, and waited the result. For
time no signs of electricity appeared. A cloud,
ently charged with lightning, had even passed over
without producing any effect. At length, how-
just as Franklin was beginning to despair, he ob-
some loose threads of the hempen string rise and
erect, exactly as if they had been repelled from
ther by being charged with electricity. He imme-
y presented his knuckle to the key, and, to his
ressible delight, drew from it the well-known elec-
spark. He said afterwards that his emotion was
eat at this completion of a discovery which was
ke his name immortal, that he heaved a deep sigh,
elt that he could that moment have willingly died.
e rain increased, the cord became a better con-
r, and the key gave out its electricity copiously.
the hemp been thoroughly wet, the bold experi-
r might, as he was contented to do, have paid for
scovery with his life. He afterwards brought down
ightning into his house, by means of an insulated
rod, and performed with it, at his leisure, all the
riments that could be performed with electricity.
he did not stop here. His active and practical
was not satisfied even with the splendid discovery,
he had turned it to a useful end. It suggested to
as is well known, the idea of a method of pre-
ng buildings from lightning, which is extremely
e and cheap, as well as effectual, consisting, as it
in nothing more than attaching to the building a
ed metallic rod, rising higher than any part of it,
communicating at the lower end with the ground.
rod the lightning is sure to seize upon, in prefe-
e to any part of the building; by which means it
nducted to the earth, and prevented from doing
injury. There was always a strong tendency in
klin's philosophy to these practical applications.
anklin's discoveries did not at first attract much
tion in England; and, in fact, he had the mortifi-
n to hear that his paper on the similarity between
ning and electricity had been ridiculed when read
e Royal Society. Having fallen, however, into the
s of the naturalist Buffon, that celebrated man
lated and published it at Paris, when it speedily
ed the astonishment of all Europe. What gave

his book the more sudden and general celebrity, was the success of one of its proposed experiments for drawing lightning from the clouds, made at Marly. This engaged the public attention every where. The "Philadelphia experiments," as they were called, were performed before the king and court, and all the curious of Paris flocked to see them. Dr Wright, an English physician, being at Paris at the time, wrote to a member of the Royal Society of London, with an account of these wonders, and stating the surprise of all the learned men abroad of Franklin's writings being so little noticed in England. The society were thus in a manner compelled to pay more attention to what they had previously considered as chimerical speculations, "and soon," says Franklin, "made me more than amends for the slight with which they had before treated me. Without my having made any application for that honour, they chose me a member, and voted that I should be excused the customary payments, which would have amounted to twenty-five guineas, and ever since have given me their Transactions gratis. They also presented me with the gold medal of Sir Godfrey Copley for the year 1753, the delivery of which was accompanied with a very handsome speech of the president, Lord Macclesfield, wherein I was highly honoured."

Although the numerous important public duties which Franklin was called upon latterly to discharge, chiefly engrossed his time, he still returned to his philosophical studies on every occasion that offered, and made several curious and interesting discoveries.

Perhaps no philosopher ever stood on a prouder eminence in the world's eye than Franklin during the latter half of his life. The obscurity of his origin served but to make his elevation the more brightly conspicuous; and honours were showered on him from all quarters of the civilised world. In 1757 he visited England, and before his return made a tour in Scotland, where he formed an intimacy with Lord Kames, and had the degree conferred upon him of Doctor of Laws by the University of St Andrews. In 1764 he again visited England, from which he proceeded to the continent of Europe. In Holland, Germany, and France, he was received with the greatest testimonies of respect from all men of science and distinction. At Paris, Louis XV. honoured him with the most distinguished marks of his favour.

POLITICAL CAREER.

This part of Franklin's life need only be very generally touched on, the scenes and transactions in which he bore a part having long since become matter of history, with which almost every individual is now more or less acquainted. We have before mentioned that he was elected a member of the General Assembly of Pennsylvania, as burgess for the city of Philadelphia, in 1747. Warm disputes at this time subsisted between the assembly and the proprietaries,* each contending for what they conceived to be their just rights. Franklin, a friend to the interests of *the many* from his infancy, speedily distinguished himself as a steady opponent of the claims of the proprietaries, and he was soon looked up to as the head of the opposition. His influence with the assembly is said to have been very great. This arose not from any superior powers of elocution; he spoke but seldom, and he never was known to make any thing like an elaborate harangue. "His speeches," says his intimate friend, the late Dr Stuber of Philadelphia, "frequently consisted of but a single sentence, or of a well-told story, the moral of which was always obviously to the point. He never attempted the flowery fields of oratory. His manner was plain and mild; his style of speaking was, like that of his writings, simple, unadorned, and remarkably concise. With this plain manner, and his penetrating and solid judgment, he was able to confound the most eloquent and subtle of his adversaries, to confirm the opinions of his friends, and

* The descendants of the original settlers who had received grants of land from the British government, who claimed exemption from all taxes, and other privileges.

president-general, appointed by the crown, and by a grand council, consisting of members chosen by the representatives of the different colonies; the whole executive authority to be committed to the president-general; the legislative to the grand council and president jointly; and all laws to be approved of by the king. This plan was unanimously approved of by the commissioners for the crown and the colonies appointed to consult on the question, but its final fate was singular. It was rejected by the ministry of Great Britain as too democratical, and by every local assembly as too despotic. These verdicts were, perhaps, the best proof of its excellence, and of its having steered exactly in the middle betwixt the interests of both.

The British government having thus rejected a proposal of internal defence in the colonies, they were soon obliged to adopt measures of another sort for their protection. Aggressive operations were again threatened by the French; and in 1754, General Braddock was dispatched from England with two regiments of regular English troops to resist them. The troops were landed at Alexandria, and marched thence to Fredericktown in Maryland, where they halted for carriages to transport their baggage, ammunition, &c., to the frontiers. Great reluctance was manifested by the country people to supply these, and, in fact, so few were sent in, and so many other difficulties occurred, that the general was about to abandon the expedition altogether. In this dilemma he was fortunately joined by Franklin, who, aware of the necessity and importance of the expedition, asked General Braddock what recompense he would afford to the owners for the use of their waggons and horses. General Braddock referred the terms to himself; they were drawn up and accepted; and Franklin immediately published them in an advertisement, with an animated appeal from himself to the loyalty and patriotism of his countrymen. The consequence was, that, in two weeks, 150 waggons and 260 horses poured into the camp, the owners of which, however, declined the security of the British commander for compensation, and insisted on having the personal bond of Franklin. This he accordingly gave them, and even advanced several hundred pounds of his own in present payment.

The expedition accordingly set forward, and its disas-

carried a bill through the house
disciplining a voluntary militia.
ciation necessary to form the militi
upon the subject, which was exten
thought to have great effect. Wl
panies in the city and country wer
ing their exercise, the governor pre
to take charge of the north-wester
infested by the enemy, and provi
the inhabitants, by raising troops
of forts. Franklin did not thin
qualified for the military, but wa
the service in his power. He re
from the governor, with full auth
blank commissions for officers, to
thought fit. Five hundred and
raised and placed under his comm

The first place selected for the
Gnadenhutten, a small settlemen
thither Franklin set out in the mi
torrents of rain, and through alm
Upon arriving at the village, he l
planning and marking out the fort,
of 455 feet; and the men were
with their axes to cut down trees
the trees fall so fast, Franklin had
at his watch when two men began
six minutes they had it upon the
fourteen inches in diameter. Ea
palisades, of eighteen feet long,
While these were preparing, othe
all round, of three feet deep, in
were to be planted. When these
penters built within them a platfor
about six feet high, for the men
through the loopholes. They had
they mounted, and fired as soon
the Indians might know they had
their fort, such as it was, was finis
it rained so hard every other da
almost unable to work.

"This gave me occasion to obse
"that when men are employed the
For on the days they worked, the
and cheerful, and, with the conscio

lar the services he had performed in England. as also immediately re-elected to his seat in the bly.

on the breaking out of the fatal disturbances in quence of Mr Grenville's Stamp Act, Franklin had returned to England, as agent for Pennsylvania other states. During his residence in England, nsulted, with unremitting industry, the best inte- of his native country. He was every where re- d with respect, on account of his reputation as a r and philosopher. Franklin was unwearied in his s to bring about a reconciliation. He had frequent views with Lord Howe and Lord Chatham, and distinguished English statesmen, who entertained m the highest respect and esteem. Most of the time g his present residence in England was occupied in vain efforts. It is well known that the first violent nstrations against the imposition of the Stamp Act, out in Franklin's native place, Boston, the capital state of Massachussets. The governor, Hutchin- and other functionaries, wrote to the home govern- , recommending the adoption of the most rigorous ive measures, and inveighing in unmeasured terms st the leading characters of the state. By some countable means, these letters fell into Franklin's s ere they reached their destination. He instantly mitted them back to the assembly at Massachus- who, enraged at the conduct of the governor, sent tition to the king, praying for his dismissal, and klin was appointed to present it. As might have expected, the petition was dismissed as "frivolous exatious;" and Franklin incurred so much obloquy is interception of the governor's dispatches (the of which was never discovered), that he was dis- d from his office of deputy-postmaster-general. till continued in England, however, and left nothing ed to effect a reconciliation between the mother- try and the colonies; but finding all his endeavours alling, he returned to America in 1775. The day his arrival, he was elected by the legislature of sylvania as a delegate to Congress. Hostilities had commenced; but it would be repeating a thrice- tale to enter into any account of the protracted and ly struggle that ensued, or the nature of its termi- n. In 1778, Franklin was sent as ambassador to ourt of France, where he soon brought about an nce between that nation and the North American s. When the British ministry at length saw the ssity of recognising the independence of the states, definitive treaty to that effect was signed at Paris he 3d of September 1783, by Dr Franklin, Mr ms, and Mr Jay, for the states, on the one hand; by Mr David Hartley, for Great Britain, on the r. Franklin continued at Paris for the two fol- ng years; but at last, by his own urgent request, recalled. Shortly after his return, he was elected ident of the supreme executive council, and lent is still perfect energies to consolidating the infant rnment. Age and infirmities, however, claimed r usual ascendancy; and in 1788 he retired wholly public life.

DEATH.

ranklin's last public act—and it was one in beau- accordance with the whole tenor of his life—was ing his signature, as president of the Anti-Slavery ety, to a memorial presented to the House of Re- entatives, praying them to exert the full powers usted to them to discourage the revolting traffic in human species. This was on the 12th of February 0. From this day forward, he was confined almost tantly to bed with the stone, from which he suffered most excruciating agony. Yet, when his paroxysms ain drew forth, as they did occasionally, an irre- sible groan, he would observe, he was afraid he did bear his sufferings as he ought—acknowledged his eful sense of the many blessings he had received n the Supreme Being, who had raised him from an low beginnings to such high rank and considera

among men, and made no doubt but his present afflictions were kindly intended to wean him from a world in which he was no longer fit to act the part assigned him. He latterly sunk into a calm lethargic state; and, on the 17th April 1790, about eleven o'clock at night, he quietly expired. He was then aged exactly eighty-four years and three months. The following epitaph, written by himself many years previous to his death, was inscribed on his tombstone:—

"The Body of BENJAMIN FRANKLIN, Printer [like the cover of an old book, its contents torn out, and stript of its lettering and gilding], lies here food for worms; yet the work itself shall not be lost, for it will (as he believed) appear once more in a new and more beautiful edition, corrected and amended by THE AUTHOR."

CHARACTER.

In looking back on Franklin's career, it is evident that the principal feature in his character was *worldly prudence*—not in the usual and selfish acceptation of the term, but that prudence, founded on true wisdom, which dictates the practice of honesty, industry, frugality, temperance, in short, all those qualities which may be classified under the name of "moral virtues"—as being the only certain means of obtaining distinction, respect, independence, and mental cheerfulness. There is no other writer who inculcates lessons of practical wisdom in a more agreeable and popular manner, and we much regret that the limits of this sheet prevent our giving many extracts illustrative of this quality. His whole conduct and writings, indeed, present the somewhat singular union of great genius with practical good sense, and of singular worldly shrewdness with the loftiest integrity of principle. The greatest worldly honours—and few have attained higher—could not for a moment make him forget or deviate from the principles with which he started in life. Ever keeping before his mind his own origin and rise, he justly considered every man to be originally on a par in as far as regarded real intrinsic worth; and, equally by precept and example, contributed more, perhaps, than any individual who ever existed, to breaking down those invidious bars to eminence and success in life which the conventional habits and artificial feelings of society had theretofore interposed to the elevation of those unblessed by birth and fortune.

As the present biography must be considered as more immediately instructive to the industrious and productive portion of mankind, we shall conclude it by giving the following "Advice to a Young Tradesman," written by Franklin at the time when his industrious and frugal habits were just beginning to be rewarded with independence and worldly respect.

"Remember that *time* is money. He that can earn ten shillings a-day by his labour, and goes abroad, or sits idle one-half of that day, though he spends but sixpence during his diversion or idleness, ought not to reckon *that* the only expense; he has really spent, or rather thrown away, five shillings besides.

Remember that *credit* is money. If a man lets his money lie in my hands after it is due, he gives me the interest, or so much as I can make of it during that time. This amounts to a considerable sum where a man has good and large credit, and makes good use of it.

Remember that money is of a prolific, generating nature. Money can beget money, and its offspring can beget more, and so on. Five shillings turned is six; turned again is seven and threepence; and so on till it becomes a hundred pounds. The more there is of it, the more it produces every turning, so that the profits rise quicker and quicker. He that kills a breeding sow, all her offspring to the thousandth generation. murders a crown, destroys all that it might luced, even scores of pounds.

ber that six pounds a-year is but a groat a- this little sum (which may be daily wasted time or expense, unperceived) a man of credit his own security, have the constant possession and use of a hundred pounds. So much is the turned by an industrious man, produces great

Remember this saying, 'The good paym of another man's purse.' He that is known tually, and exactly to the time he promises, time, and on any occasion, raise all the money can spare. This is sometimes of great use. A try and frugality, nothing contributes more ing of a young man in the world than punc justice in all his dealings: therefore, never rowed money an hour beyond the time you lest a disappointment shut up your friend's ever.

The most trifling actions that affect a m are to be regarded. The sound of your ham in the morning, or nine at night, heard by makes him easy six months longer; but if he at a billiard-table, or hears your voice at a tav you should be at work, he sends for his money day; demands it before he can receive it in a

It shows, besides, that you are mindful of owe; it makes you appear a careful as well as man, and that still increases your credit.

Beware of thinking all your own that you and of living accordingly. It is a mistake t people who have credit fall into. To prevent an exact account, for some time, both of your and your income. If you take the pains at first tion particulars, it will have this good effect— discover how wonderfully small trifling expen up to large sums, and will discern what m been, and may for the future be saved, with sioning any great inconvenience.

In short, the way to wealth, if you desire plain as the way to market. It depends chief words—*industry* and *frugality;* that is, wast *time* nor *money*, but make the best use of both out industry and frugality nothing will do, them every thing. He that gets all he can and saves all he gets (necessary expenses e will certainly become *rich*—if that Being wh the world, to whom all should look for a bl their honest endeavours, doth not, in his w dence, otherwise determine."

About forty years later, after a long life of e he penned the following similar admonitions "Necessary Hints to those that would be Ric

"The use of money is all the advantage t having money.—For six pounds a-year you the use of one hundred pounds, provided man of known prudence and honesty.—He th a groat a-day idly, spends idly about six pound which is the price for the use of one hundr He that wastes idly a groat's worth of his tim one day with another, wastes the privilege of hundred pounds each year.—He that idly shillings' worth of time, loses five shillings, as prudently throw five shillings into the sea loses five shillings, not only loses that sum, advantages that might be made by turning it which, by the time that a young man becom amount to a considerable sum of money.— that sells upon credit, asks a price for wh equivalent to the principal and interest of for the time he is to be kept out of it; th that buys upon credit, pays interest for wh and he that pays ready money, might let t out to use; so that he that possesses any th bought, pays interest for the use of it.—Yet goods, it is best to pay ready money, becau sells upon credit expects to lose five per c debts; therefore, he charges, on all he sell dit, an advance that will make up that de Those who pay for what they buy upon credi share of this advance.—He that pays re escapes, or may escape, that charge.

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PRESERVATION OF HEALTH.

AN being, supposing him to be soundly constituted at, will continue in health till he reaches old age, ded that certain conditions are observed, and no ous accident shall befall. This is a proposition ll supported by an extensive observation of facts, may be regarded as established. It becomes, of , important to ascertain what are the conditions ial to health, in order that, by their observance, y preserve for ourselves what is justly esteemed greatest of earthly blessings, and dwell for our lly appointed time upon the earth. A general intance with these conditions may be easily at- by all, and to pay them obedience is much more the power of individuals than is generally sup-

leading conditions essential to health may be numerated:—1. A constant supply of pure air; sufficiency of nourishing food, rightly taken; anliness; 4. A sufficiency of exercise to the vari- rgans of the system; 5. A right temperature; sufficiency of cheerful and innocent enjoyments; Exemption from harassing cares.

AIR.

common air is a fluid composed mainly of two in certain proportions; namely, oxygen as 20 and en as 80 parts in a hundred, with a very minute n of carbonic acid gas. Such is air in its pure ght state, and such is the state in which we re- it for respiration. When it is loaded with any ture of a different kind, or its natural propor- are in any way deranged, it cannot be breathed t producing injurious results. We also require to apt to appear a large quantity of this element lthy existence. The lungs of a healthy full-grown will inhale the bulk of twenty cubic inches at every ation, and he will use no less than fifty-seven ads in twenty-four hours.

r, there are various circumstances which tend to und us at times with vitiated air, and which must dingly be guarded against. That first calling for ion is the miasma or noxious quality imparted to r in certain districts by stagnant water and decay- getable matter. It is now generally acknowledged his noxious quality is in reality a subtle poison, acts on the human system through the medium lungs, producing fevers and other epidemics. A instance of its acting on a great scale is presented e Campagna di Roma, where a large surface is ed in a marshy state. The air arising from that ory at certain seasons of the year, obliges the in- ants of the adjacent districts of the city to desert homes, in order to escape its pernicious influence. arshes, and low damp grounds of every kind, pro- more or less miasma, and it is consequently dange- o live upon or near them. Slightly elevated ground should, accordingly, in all cases, be chosen for both single houses and towns. Tanks and collections of water of every kind are dangerous beneath or near a house, because, unless their contents be constantly in a state of change, which is rarely the case, their tendency is to send up exhalations of a noxious kind. A few years ago, the eldest son of an English nobleman—a youth of great promise, and who had recently become a husband and father—died of a fever which was traced to the opening of an old reservoir of water underneath the country-house in which he dwelt.*

Putrid matter of all kinds is another conspicuous source of noxious effluvia. The filth collected in ill-regulated towns—ill-managed drains—collections of decaying animal substances, placed too near or within private dwellings—are notable for their effects in vitiating the atmosphere, and generating disease in those exposed to them. In this case, also, it is a poison diffused abroad through the air which acts so injuriously on the human frame. This was probably the main cause of the plagues which visited European cities during the middle ages. In those days there were no adequate provisions for cleaning cities, and the consequence was, that large collections of filth were accumulated. The noxious air diffused by these means through the narrow streets and confined dwellings would tend to the most fatal effects. In old drains there is generated a gas (sulphureted hydrogen), which is calculated to produce dreadful consequences amongst those exposed to it. It has lately been discovered, that it is the presence of this gas in the sea near the eastern coast of tropical Africa, which causes the peculiar unhealthiness of that region. It is ascertained that small animals, such as birds, die, when the air they breathe contains one fifteen-hundredth part of sulphureted hydrogen, and that an infusion six times greater will kill a horse. It follows, that we can scarcely attach too much importance to measures for cleaning cities and improving drains. There are as yet no large towns in Britain kept in a state so clean as is desirable for the health of their inhabitants; and the metropolis itself is amongst those which are most defective in this respect.

The human subject tends to vitiate the atmosphere for itself, by the effect which it produces on the air which it breathes. Our breath, when we draw it in, consists of the ingredients formerly mentioned; but it is in a very different state when we part with it. On passing into our lungs, the oxygen, forming the lesser ingredient, enters into combination with the carbon of the venous blood (or blood which has already performed its round through the body); in this process, about two-fifths of the oxygen is abstracted and sent into the blood, only the remaining three-fifths being expired, along with the nitrogen nearly as it was before.

* Viscount Milton, son of the present Earl Fitzwilliam, was the person here alluded to.

In place of the oxygen consumed, there is expired an equal volume of carbonic acid gas, such gas being a result of the process of combination just alluded to. Now, carbonic acid gas, in a larger proportion than that in which it is found in the atmosphere, is noxious. The volume of it expired by the lungs, if free to mingle with the air at large, will do no harm; but, if breathed out into a close room, it will render the air unfit for being again breathed. Suppose an individual to be shut up in an air-tight box: each breath he emits throws a certain quantity of carbonic acid gas into the air filling the box; the air is thus vitiated, and every successive inspiration is composed of worse and worse materials, till at length the oxygen is so much exhausted, that it is insufficient for the support of life. He would then be sensible of a great difficulty in breathing, and in a little time longer he would die.

Most rooms in which human beings live are not strictly close. The chimney and the chinks of the door and windows generally allow of a communication to a certain extent with the outer air, so that it rarely happens that great immediate inconvenience is experienced in ordinary apartments from want of fresh air. But it is at the same time quite certain that, in all ordinary apartments where human beings are assembled, the air unavoidably becomes *considerably vitiated*, for in such a situation there cannot be a sufficiently ready or copious supply of oxygen to make up for that which has been consumed, and the carbonic acid gas will be constantly accumulating. This is particularly the case in bedrooms, and in theatres, churches, and schools. An extreme case was that of the celebrated Black Hole of Calcutta, where a hundred and forty-six persons were confined for a night in a room eighteen feet square with two small windows. Here the oxygen scarcely sufficient for the healthy supply of one person, was called upon to support a large number. The unfortunate prisoners found themselves in a state of unheard-of suffering, and in the morning all were dead but twenty-three, some of whom afterwards sunk under putrid fever brought on by breathing so long a tainted atmosphere.

Although the vitiation of the air in ordinary apartments and places of public assembly does not generally excite much attention, it nevertheless exercises a certain unfavourable influence on health in all the degrees in which it exists. Perhaps it is in bedrooms that most harm is done. These are generally smaller than other rooms, and they are usually kept close during the whole night. The result of sleeping in such a room is very injurious. A common fire, from the draught which it produces, is very serviceable in ventilating rooms, but it is at best a defective means of doing so. The draught which it creates generally sweeps along near the floor between the door and the fire, leaving all above the level of the chimney-piece unpurified. Yet scarcely any other arrangement is any where made for the purpose of changing the air in ordinary rooms. To open the window is a plan occasionally resorted to, but it is not always agreeable in our climate, and sometimes it produces bad consequences of a different kind.

It would nevertheless be easy to produce an effective draught from any room in which a fire is kept. It is only necessary to make an aperture into the flue, near the ceiling of the room, and insert therein a tin tube, with a valve at the exterior, capable of opening inwards, but closing when at rest or when a draught is sent the contrary way. The draught produced by the fire in the flue would cause a constant flow of air out of the *upper part* of the room (where most vitiated); and the valve would be an effectual protection against back-smoke, should there be the least tendency to it. This plan is adopted in Buckingham Palace. It could be applied to any existing house at a mere trifle of expense.

A more effectual plan, and one which operates when there is no fire in the room, is to establish a tin tube of two or three inches diameter out of each apartment to be ventilated, causing them all to meet in one general tube, the extremity of which passes into a flue—for example, that of the kitchen, which cold. Thus there might be a constant pass air into and through every room of a large that it would be at all times as healthy in as the open fields. At the same time, the by means of graduated valves, be regulated gree which might be deemed agreeable.

FOOD.

The second requisite for the preservation is a sufficiency of nutritious food.

Organic bodies, in which are included ve well as animals, are constituted upon the pr *continual waste of substance supplied by* con *tion.*

The Nutritive System of animals, from the humblest of these to the highest, comp *alimentary tube or cavity*, into which food and from which, after undergoing certain ch diffused by means of smaller vessels thro whole structure. In the form of this tube, other apparatus connected with the taking of are, in different animals, varieties of struc which are respectively in conformity with p in the quality and amount of food which the animals are designed to take. The harmon served in these arrangements is remarkably of that Creative Design to be traced in all t

MAN DESIGNED TO LIVE ON A MIXED DI

Some animals are formed to live upon veg stances alone; others are calculated to liv flesh of other animals. Herbivorous anim former are called, have generally a long a cated alimentary tube, because the nutritio such food, being comparatively small in pr the whole bulk, requires a greater space i be extracted and absorbed into the system. for example, has a series of intestines tw times the length of its body. For the oppos carnivorous or flesh-devouring animals, as tribe of quadrupeds, and the rapacious bi generally a short intestinal canal. The form animals are furnished with teeth, calculate broad and flat surfaces, as well as by the lat ment of the jaws in which they are set, to m the herbage and grain eaten by them. But vorous animals, with wide-opening jaws, ha sharp fangs to seize and tear their prey. Th liarities of structure mark sufficiently the nature with respect to the kinds of food requi two different classes of animals for their supp

The human intestinal canal being of medi and the human teeth being a mixture of the it necessarily follows that man was designed t vegetable and animal food. As no animal can ably or healthily except in conformity with th its constitution, it follows that man will not t less with a mixture of animal and vegetable fo followers of Pythagoras argued, from the c putting animals to death, that it was proper t vegetables alone; and many eccentric persons t times have acted upon this rule. But the uni Nature speak a different language; and, if we faith in these, we cannot for a moment doubt th ture of animal food is necessary for our well-b the other hand, we cannot dispense with vegeta without injurious consequences. In that case, in a medium alimentary canal a kind of food calculated for a short one, thus violating an ment of the most important nature. A balance the two kinds of food is what we should observ would desire to live a natural and consequently life.

RULES CONNECTED WITH EATING.

In order fully to understand how to eat, wha

ow to conduct ourselves after eating, it is neces-
hat we should be acquainted in some measure
he *process of nutrition*—that curious series of
ions by which food is received and assimilated
· system, in order to make good the deficiency
ed by waste.

d is first received into the mouth, and there the
ions in question may be said to commence. It is
to be chewed (or masticated) and mixed with
preparatorily to its being swallowed or sent into
omach. Even in this introductory stage, there
rtain rules to be observed. Strange as it may
, to know *how to eat* is a matter of very consi-
e importance.

ny persons, thinking it all a matter of indifference,
haps unduly anxious to dispatch their meals, eat
st. If we are to believe the accounts of travellers,
ole of the mercantile classes in New England eat
dly, seldom taking more than ten minutes to
ast, and a quarter of an hour to dinner. They
e their meat precipitately into their mouths, and
w it almost without mastication. This is con-
to an express law of nature, as may be easily

d, on being received into the mouth, has two pro-
to undergo, both very necessary to digestion. It
be masticated, or chewed down, and also to re-
an admixture of saliva. The saliva is a fluid
from certain glands in and near the mouth, and
aching in character to the gastric juice afterwards
described. Unless food be well broken down or
ated, and also well mixed up with the salivary
it will be difficult of digestion. The stomach is
alled upon to do, besides its own proper duty, that
properly belongs to the teeth and saliva, and it
s overburdened and embarrassed, often in a very
s manner. The pains of indigestion are the im-
te consequence, and more remote injuries follow.
importance of the saliva has been shown in a
ng manner, on several occasions when food was
ed into the stomach otherwise than through the
. A gentleman, who, in consequence of a stric-
n the gullet, had his food introduced by an aper-
nto that tube, used to suffer severely from indi-
n. It is recorded of a criminal, who, having cut
roat in prison without fatal consequences, required
his food introduced by means of a tube inserted
mouth, that, every time he was fed, there was
usion of saliva to the amount of from six to eight
s. We cannot suppose that a fluid of a peculiar
cter would have been prepared in such quantity,
water would serve as well merely to wet the food,
ad not been designed to act an important part in
siness of nutrition. With regard to mastication,
vidence of its importance is still more clear. A
ears ago, a young Canadian, named Alexis St
n, had a hole made by a shot into his stomach,
healed without becoming closed. It was there-
ossible to observe the whole operations of the
ch with the eye. His medical attendant, Dr
nont, by these means ascertained that, when a
of solid food was introduced, the gastric juice
merely on its outside. It was only when the food
omminuted, or made *small*, that this fluid could
erform its function. When the stomach finds
totally unable to digest a solid piece of food, it
rejects it by vomiting, or passes it on into the
here it produces an irritating effect, and is apt to
on an attack of cholic or flatulency.

s therefore to be concluded that *a deliberate mas-*
n of our food is conducive to health, and that fast
is injurious, and sometimes even dangerous.

food, having been properly masticated, is, by the
of the tongue, thrown into the gullet. It then
ads into the stomach, not so much by its own
y, as by its being urged along by the contrac-
and motions of the gullet itself. The stomach
e considered as an expansion of the gullet, and
ief part of the alimentary canal. It is, in fact,
a membranous pouch or bag, very similar in shape to a bagpipe, having two openings, the one by which the food enters, the other that by which it passes out. It is into the greater curvature of the bag that the gullet enters; it is at its lesser that it opens into that adjoining portion of the canal into which the half-digested mass is next propelled.

When food has been introduced, the two orifices close, and that which we may term the second stage in the process of digestion commences. The mass, already saturated with saliva, and so broken down as to expose all its particles to the action of the gastric juice, is now submitted to the action of that fluid, which, during digestion, is freely secreted by the vessels of the stomach. The most remarkable quality of this juice is its solvent power, which is prodigious.

The food exposed to this dissolving agency, is converted into a soft, grey, pulpy mass, called chyme, which, by the muscular contraction of the stomach, is urged on into the adjoining part of the alimentary canal, called the duodenum. This is generally completed in the space of from half an hour to two or three hours; the period varying according to the nature and volume of the food taken, and the mastication and insalivation it has undergone.

In the duodenum, the chyme becomes intimately mixed and incorporated with the bile and pancreatic juices; also with a fluid secreted by the mucous follicles of the intestine itself. The bile is a greenish, bitter, and somewhat viscid fluid, secreted by the liver, which occupies a considerable space on the right side of the body immediately under the ribs. From this organ the bile, after a portion of it has passed up into the adjacent gall-bladder, descends through a small duct, about the size of a goose-quill, into the duodenum. The chyme, when mixed with these fluids, undergoes a change in its appearance; it assumes a yellow colour and bitter taste, owing to the predominance of the bile in the mass; but its character varies according to the nature of the food that has been taken. Fatty matters, tendons, cartilages, white of eggs, &c., are not so readily converted into chyme as fibrous or fleshy, cheesy, and glutinous substances. The chyme, having undergone the changes adverted to, is urged by the peristaltic motion of the intestines onwards through the alimentary canal. This curious motion of the intestines is caused by the contraction of the muscular coat which enters into their structure, and one of the principal uses ascribed to the bile is that of stimulating them to this motion. If the peristaltic motion be diminished, owing to a deficiency of bile, then the progress of digestion is retarded, and the body becomes constipated. In such cases, calomel, the blue pill, and other medicines, are administered for the purpose of stimulating the liver to secrete the biliary fluid, that it may quicken by its stimulating properties the peristaltic action. But this is not the only use of the bile: it also assists in separating the nutritious from the non-nutritious portion of the alimentary mass, for the chyme now presents a mixture of a fluid termed *chyle*, which is in reality the nutritious portion eliminated from the food. The chyme thus mixed with chyle arrives in the small intestines; on the walls of which a series of exquisitely delicate vessels ramify in every direction. These vessels absorb or take up the chyle, leaving the rest of the mass to be ejected from the body. The chyle, thus taken up, is carried into little bodies or glands, where it is still further elaborated, acquiring additional nutritious properties; after which, corresponding vessels, emerging from these glands, carry along the fluid to a comparatively large vessel, called the thoracic duct, which ascends in the abdomen along the side of the back-bone, and pours it into that side of the heart to which the blood that has already circulated through the body returns. Here the chyle is intimately mixed with the blood, which fluid is now propelled into the lungs, where it undergoes, from being exposed to the action of the air we breathe, the changes necessary to render it again fit for circulation. It is in the lungs, therefore, that the process of digestion is completed;

the blood has now acquired those nutritient properties from which it secretes the new particles of matter adapted to supply the waste of the different textures of the body.

When food is received into the stomach, the secretion of the gastric juice immediately commences; and when a full meal has been taken, this secretion generally lasts for about an hour. It is a law of vital action, that when any living organ is called into play, there is immediately an increased flow of blood and nervous energy towards it. The stomach, while secreting the bile, displays this phenomenon, and the consequence is that the blood and nervous energy are called away from other organs. This is the cause of that chilliness at the extremities which we often feel after eating heartily. So great is the demand which the stomach thus makes upon the rest of the system, that, during and for some time after a meal, we are not in a condition to take strong exercise of any kind. Both body and mind are inactive and languid. They are so, simply because that which supports muscular and mental activity is concentrated for the time upon the organs of digestion. This is an arrangement of nature which a regard to health requires that we should not interfere with. *We should indulge in the muscular and mental repose which is demanded; and this should last for not much less than an hour after every meal.* In that time, the secretion of bile is nearly finished; the new nutriment begins to tell upon the general circulation; and we are again fit for active exertion. The consequence of not observing this rule, is very hurtful. Strong exercise, or mental application, during or immediately after a meal, diverts the flow of nervous energy and of blood to the stomach, and the process of digestion is necessarily retarded or stopped. Confusion is thus introduced into the system, and a tendency to the terrible calamity of dyspepsia is perhaps established.

For the same reason that repose is required after a meal, it is necessary, in some measure, for a little while before. At the moment when we have concluded a severe muscular task, such, for example, as a long walk, the flow of nervous energy and of circulation is strongly directed to the muscular system. It requires some time to allow this flow to stop and subside; and, till this takes place, it is not proper to bring the stomach into exercise, as the demand which it makes when filled would not in that case be answered. Just so, if we be engaged in close mental application, the nervous energy and circulation being in that case directed to the brain, it is not right all at once to call another and distant organ into play; some time is required to allow of the energy and circulation being prepared to take the new direction. It may, therefore, be laid down as a maxim, that *a short period of repose, or at least of very light occupation, should be allowed before every meal.*

It is remarkable that these rules, although the natural reasons for them were not, perhaps, well known, have long been followed with regard to animals upon which man sets a value, while as yet their application to the human constitution is thought of only by a few. Those intrusted with horses and dogs will not allow them to feed immediately after exercise; nor will they allow them to be subjected to exercise for some time after feeding. Experience has also instructed veteran soldiers not to dine the instant that a long march has been concluded, but to wait coolly till ample time has been allowed for all the proper preparations.

Although strong mental and muscular exercise should be avoided before, during, and immediately after a meal, there can be no objection to the light and lively chat which generally is indulged in where several are met to eat together. On the contrary, it is believed that jocund conversation is useful towards the process of nutrition. Dr Combe, in one of his invaluable works, observes as follows:—"The necessary churning, or agitation of the food, is, from the peculiar situation of the stomach, greatly assisted by the play of the diaphragm and abdominal muscles during inspiration and
tion; and the diminution of the vivacity and e
the respiratory movement which always atte
spondency and grief, is one source of the e
digestion which notoriously accompanies depr
mind. The same cause also leads necessari
unfavourable condition of the blood itself, whi
turn weakens digestion in common with eve
function; but the muscular or mechanical influ
that which at present chiefly concerns us. On t
hand, the active and energetic respiration a
on cheerfulness and buoyancy of spirits, add
power of digestion, both by aiding the motion
stomach and by imparting to it a more richly
tuted blood. If to these causes be added the
of nervous stimulus which pleasing emotions
in the stomach (as in the muscles and organs
tion generally), we shall have no difficulty in
ing why digestion goes on so well in parties wh
is much jocularity and mirth. 'Laughter,' s
fessor Hufeland of Berlin, 'is one of the great
to digestion with which I am acquainted; and
tom prevalent among our forefathers, of exci
table by jesters and buffoons, was founded on
tally in harmony with [] true medical principl
word, endeavour to have cheerful and merry
nions at your meals: what nourishment one
amidst mirth and jollity, will certainly produ
and light blood.'"*

KINDS OF FOOD.

It has been shown, by a reference to the s
of the human intestinal canal, that our food is
to be a mixture of animal and vegetable su
There is, it is to be remarked, a power of
tion in nature, by which individuals may be
for a considerable time to live healthily on
other kind exclusively, or nearly so. This
nevertheless, the general rule, to which it is
adhere. It has been found, for instance, th
labourers, including ploughmen, will live heal
many years on a diet chiefly farinaceous—that
posed of the farina of grain. But it is to be fe
the food in this case, though apparently suffi
health, is only so apparently; and that the con
being all the time not supported as it ought to b
down prematurely in a great proportion of t
It has been said, again, that the Irish labouring
are a remarkably robust race, although their f
sists almost exclusively of potatoes. The fact
looked, that the Irish eat a quantity of pot
enormous, as could not fail to make up in so
sure for the want of animal diet. It was foun
Poor-Law Commissioners, that the greater m
the peasantry of Ireland, women as well as m
at their two daily meals, in general, about nin
weight of this food! Such a case is rather to b
amongst instances of extraordinary adaptations
ticular kind of food, than as a proof that an
potato diet is healthy. Climate has a remarka
in modifying the rule as to a mixture of an
vegetable food. The former has most of a sti
quality, and this quality is greater in beef, an
general, than in fowl or fish. Now, the inhab
torrid countries are in their ordinary condition
need of stimulus: hence they find a simple di
and sago sufficient for them. Those, on the
who dwell in cold countries need much stimulu
they can devour vast quantities of flesh and
with scarcely any mixture of vegetable food.

Inquiries with respect to the comparative
lity of different kinds of food, are perhaps
consequence to those in whom health has alre
lost. To the sound and healthy, it is compar
little consequence what kind of food is taken,
that some variation is observed, and no ex

* The Physiology of Digestion. By Dr Andrew Com
burgh: 1836.

f any particular limb does little besides im-
e strength of that limb; and that, in order
our general strength, the whole frame must
into exercise. The blacksmith, by wield-
mmer, increases the muscular volume and
f his right arm only, or, if the rest of his
es any advantage from his exercise, it is
e general movement which the wielding of
occasions. One whose profession consists in
leaping, for the same reason, chiefly improves
s of his legs. The right hands of most per-
ing more frequently employed than the left,
nsibly larger as well as stronger. A still
ing illustration of the principle is to be found
nal peculiarity which has been remarked in
tants of Paris. Owing to the uneven nature
ement of that city, the people are obliged to
tripping manner on the front of their feet; a
which calls the muscles of the calves of the
trong exertion. It is accordingly remarked,
er proportion of the people of Paris are dis-
by an uncommon bulk in this part of their
an in other cities.

e, then, to maintain in a sound state the
hich nature has given us, and, still more
y, to increase their amount, *we must exercise*
we desire to have a strong limb, we must
at limb; if we desire that the whole of our
uld be sound and strong, we must exercise
of our frame. It is mainly by these means
and strength are to be preserved and im-
There are rules, however, for the application
ws of our being.

der that exercise may be truly advantageous,
must be in a state of sufficient health to en-
exertion. A system weakened by disease or
ion must be exercised very sparingly, and
n to greater efforts very gradually; other-
nal effects of over-exercise will follow. In
ast exercise be carried beyond what the parts
e of bearing with ease; otherwise a loss of
stead of a gain, will be the consequence.

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be excited, sustained, and directed by that
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ust be mentioned that to produce motion re-
co-operation of the muscular fibre with two
ves, one of which conveys the command of the
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conveys back to the brain the peculiar sense
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portion to the parts upon which increased
l strength depend.

KINDS OF BODILY EXERCISE.

is usually considered as of two kinds—active
ve. The active consists in walking, running,

interval amounts to nine hours, the lunch should be a little more substantial, but not of animal food, particularly if any has been taken at breakfast. A glass of wine is often added to a biscuit lunch, or wine alone is taken; but neither of these practices can be commended. While a small quantity of bread or biscuit gives real strength, and is quite sufficient for the occasion, wine only gives a stimulus, serving for the time, but making the case worse afterwards.

VARIETY OF FOOD.

A judicious variation of food is not only useful, but important. There are, it is true, some aliments, such as bread, which cannot be varied, and which no one ever wishes to be so. But apart from one or two articles, a certain variation or rotation is much to be desired, and will prove favourable to health. There is a common prepossession respecting *one dish*, which is more spoken of than acted upon. In reality, there is no virtue in this practice, excepting that, if rigidly adhered to, it makes excess nearly impossible, no one being able to eat to satiety of one kind of food. There would be a benefit from both a daily variation of food and eating of more than one dish at a meal, *if moderation were in both cases to be strictly observed*, for the relish to be thus obtained is useful as promotive of the flow of nervous energy to the stomach, exactly in the same manner as cheerfulness is useful. The policy which would make food in any way unpleasant to the taste, is a most mistaken one; for to eat with languor, or against inclination, or with any degree of disgust, is to lose much of the benefit of eating. On the other hand, to cook dishes highly, and provoke appetite by artificial means, are equally reprehensible. Propriety lies in the mean between the two extremes.

BEVERAGES.

The body containing a vast amount of fluids, which are undergoing a perpetual waste, there is a necessity for an occasional supply of liquor of some kind, as well as of solid food. It remains to be considered what is required in the character or nature of this liquor, to make it serve the end consistently with the preservation of health.

It is scarcely necessary to remark how men in all ages, and almost all climes, have indulged in liquors containing a large infusion of alcohol, or how widespread in our own society is the custom of drinking considerable quantities of wine, spirits, and beer, both at meals and on other occasions. Against habits so inveterate it is apt to appear like fanaticism to make any decided objection; yet the investigator of the laws which regulate health is bound to consider above all things how any particular habit bears upon the human constitution, and to state what is the result of his inquiries, however irreconcileable it may be with popular prejudice.

"The primary effect of all distilled and fermented liquors," says Dr Combe, "is to *stimulate the nervous system and quicken the circulation*." They may thus be said to have a larger measure of the effect which animal food has upon the system. It is therefore the less surprising that those tropical nations which live most on farinaceous diet, are also found to be those which have the least propensity to the drinking of ardent spirits; while those northern nations which live most on animal food, have the exactly contrary inclination with respect to liquor, the Scandinavian tribes being notoriously the greatest sots that have ever been known. Dr Combe admits that, in some conditions of the system, when the natural stimulus is defective, it may be proper to take an artificial supply in the form of ardent and fermented liquors. "There are," he says, "many constitutions so inherently defective in *energy*, as to derive benefit from a moderate daily allowance of wine; and there are many situations in which even the healthiest derive additional security from its occasional use. If, for example, a healthy person is exposed to unusual and continued exertion in the open air, or to the influence of anxious and sing watchfulness, a moderate quantity of wine food may become the means of warding off ac ease, and enabling him to bear up uninjure without it he would have given way." But Dr C the same time declares, in the most decided that, when the digestion is good and the syste vigour, the bodily energy is easily sustained tious food, and "artificial stimulant *only* ince *wasting of the natural strength*." Nearly all ph indeed, concur in representing ardent liquor favourable to the health of the healthy, and as their excess, highly injurious. Even the spe fence which has been set up for their use, on th that they would not have been given to man if not been designed for general use, has been be ill-founded, seeing that *vinous fermentati* which they are derived, is not a healthy con vegetable matter, but a stage in its progress Upon the whole, there can be little doubt t liquors are deleterious in our ordinary healt tion; and that simple water, toast water, whe beer, or lemonade, would be preferable (the f the most natural and the best of all), if we co consent to deny ourselves further indulgence.

CLEANLINESS.

To keep the body in a cleanly condition is t important requisite for health. This becom sary in consequence of a very important proce is constantly going on near and upon the surfa body.

The process in question is that of *perspirati* matter here concerned is a watery secretion by glands near the surface of the body, up through the skin by channels imperceptnute and wonderfully numerous. From one pounds of this secretion is believed to exude these channels or *pores* in the course of two hours, being in fact the chief form taken by called the waste of the system, the remainder off by the bowels, kidneys, and lungs. To pro free egress of this fluid is of great conseq health; for when it is suppressed, disease is s upon some of the other organs concerned in charge of waste.

One of the most notable checks which per experiences is that produced by a current of upon the skin, in which case the pores instatract and close, and the individual is seized wi ailment either in one of the other organs whichever is in him the weakest, or in the lining of some part of the body, all of which sthetic with the condition of the skin. A resu nature of that last described is usually recogcold or catarrh. We are not at present called ticularly to notice such effects of checked pers but others of a less immediately hurtful or d nature.

The fluid alluded to is composed, besides certain salts and animal matters, which, being not pass away in vapour, as does the watery pa compound, but rest on the surface where it been discharged. There, if not removed by ar ficial means, they form a layer of hard stuff, avoidably impede the egress of the current pers By cleanliness is merely meant the taking prop to prevent this or any other matter accumula the surface, to the production of certain hurtf quences.

Ablution or washing is the best means of attai end; and accordingly it is well for us to wash the body very frequently. Many leave by far the part of their bodies unwashed, except, perhaps, occasions, thinking it enough if the parts ex common view be in decent trim. If the object ing were solely to preserve fair appearances, th be sufficient; but the great end, a much more

xercise of any particular limb does little besides in-
ovice the strength of that limb; and that, in order
increase our general strength, the whole frame must
brought into exercise. The blacksmith, by wield-
g his hammer, increases the muscular volume and
rength of his right arm only, or, if the rest of his
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ncing or leaping, for the same reason, chiefly improves
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ns, by being more frequently employed than the left,
come sensibly larger as well as stronger. A still
ore striking illustration of the principle is to be found
a personal peculiarity which has been remarked in
e inhabitants of Paris. Owing to the uneven nature
the pavement of that city, the people are obliged to
lk in a tripping manner on the front of their feet; a
ovement which calls the muscles of the calves of the
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otion, performed languidly, may be nearly ineffectual.

3. The waste occasioned by exercise must be duly
placed by food; as, if there be any deficiency in that
portant requisite, the blood will soon cease to give
at invigoration to the parts upon which increased
alth and strength depend.

KINDS OF BODILY EXERCISE.

Exercise is usually considered as of two kinds—active
nd passive. The active consists in walking, running,

leaping, riding, fencing, rowing, skating, swimming, dancing, and various exercises, such as those with the poles, ropes, &c., prescribed in gymnastic institutions. The passive consists in carriage-riding, sailing, friction, swinging, &c.

Walking is perhaps the readiest mode of taking exercise, and the one most extensively resorted to. If it brought the upper part of the body as thoroughly into exertion as the lower, it would be perfect, for it is gentle and safe with nearly all except the much debilitated. To render it the more effectual in the upper part of the body, it were well to walk at all times, when convenient, *singly*, and allow the arms and trunk free play. It is best to walk with a companion, or for some definite object, as the flow of nervous energy will be by these means promoted, and the exercise be rendered, as has been already explained, the more serviceable.

Very long or rapid walks should not be attempted by individuals of sedentary habits, nor by weakly persons. Their frames are totally unprepared for such violent exertion. When a person who has been long confined at still employments finds himself at liberty to indulge his inclination for a ramble of a few days in the country, he should begin with slow and short marches, and be content therewith till his body is hardened for greater efforts. This is a rule followed in the army with respect to regiments which are about to undertake long marches. Every summer, many youths, from ignorance, do themselves great injury by undertaking pedestrian excursions much beyond their strength. Jaded to the last degree, and incapable of enjoying any thing presented to their observation, they nevertheless persist in making out some appointed number of miles per day, never once thinking of the outrage they are committing upon themselves, and only looking to the glory of executing their task, the only pleasure they find in the journey. Serious consequences — consumption not unfrequently — follow such ill-advised efforts.

With respect to very rapid walking, Dr Johnson records some effects from it, of a remarkable nature, as occurring in his own case. "In my own person," says he, "I had some years ago a very severe and alarming instance of the bad effects of too great muscular action, occasioned by a habit of walking very fast. After a day and night of unusual fatigue and rapid pedestrian exertion, together with considerable mental anxiety, I was suddenly seized with an intermission of the pulse at irregular periods. During each intermission, I felt the heart give a kind of struggle, as it were, and strike with great violence against the ribs, accompanied by a peculiar and most distressing sensation in the cardiac region, which I cannot describe." These symptoms became aggravated, and lasted for eight weeks, "during which time," he continues, "I used horse-exercise, and kept, when at home, in a horizontal position. At length the heart gradually lost its morbid irritability; and at the end of fourteen or fifteen weeks I could walk as well as ever."

Running is an exercise which is intermediate between walking and leaping; it consists, in fact, of a series of leaps performed in progression from one foot to another, and the degree of its rapidity bears a constant proportion to the length of the individual and successive leaps. During this exercise the individual is obliged to take long inspirations, and make slow expirations; the air-cells of the lungs are thereby distended, and the action of the heart being at the same time increased, and the circulation through the lungs much accelerated, a sense of oppression is felt on the chest, which is often exceedingly painful; when the violent action is discontinued, the heart palpitates with intermitting strokes, in the endeavour to recover its natural equilibrium of motion. Although this and other gymnastic exercises, such as leaping, wrestling, throwing heavy weights, &c., may, when judiciously had recourse to, invigorate the body, yet, from apprehension of the evils and accidents which may be so occasioned, young persons ought not to be permitted to engage extensively in such exercises, except under the care of some one well

with gymnastics.

Fencing is of all active exercises that w
most commendable, inasmuch as it throw
chest, and at the same time calls into action
both of the upper and lower extremities.
that it improves very much the carriage of
for which reason it may be reckoned a bran
education. The salutary effects of the othe
which are taught in gymnastic institution
exercise with the ropes, poles, pulleys, &c.,
ing the strength of the body, will be seen
ing Mr Roland's Treatise on Gymnastics, wh
found a table showing the amount of the
growth and strength of the body in a given ti
the employment of these exercises.

Dancing is exhilarating and healthful, an
be almost the only active exercise which th
laws of fashion permit young ladies to enjoy.
scarcely consider modern quadrilles, elegan
they be, as exercise, seeing that they differ l
the most common walking movement. But
dances, reels, and hornpipes, are genuine exe
their less refinement may be considered as an
pensated by the superior benefit which they co
health.

Riding is generally classed among the pass
cises, but in reality it is one which involves mo
of the whole frame, and as such is very useful fo
Pursued solitarily, it has the drawback of bei
what dull; but, when two or three ride in co
sufficient flow of the nervous energy may be o

The amount of bodily exercise which should
must vary according to the habits, strength, w
ral health of the individual. It was an aph
Boerhaave, that every person should take at l
hours' exercise in the day, and this may be reg
a good general rule.

MENTAL EXERCISE.

Having thus explained the laws and regula
which exercise may be serviceable to the phys
tem, we shall proceed to show that the same ru
good respecting the mental faculties. These
generally allowed, however immaterial in ou
are connected organically with the brain—a pa
the animal system nourished by the same blo
regulated by the same vital laws, as the muscles
and nerves. As, by disuse, muscle becomes ema
bone softens, blood-vessels are obliterated, and
lose their natural structure, so, by disuse, d
brain fall out of its proper state, and create m
its possessor; and as, by over-exertion, the w
the animal system exceeds the supply, and debil
unsoundness are produced, so, by over-exertion,
functions of the brain liable to be deranged a
stroyed. The processes are physiologically the
and the effects bear an exact relation to each
As with the bodily powers, the mental are in
creased in magnitude and energy by a degree of
cise measured with a just regard to their re
health and native or habitual energies. Correspo
moreover, to the influence which the mind has u
the nervous stimulus so useful in bodily exercise
dependence of the mind upon the body for supp
healthy nutriment. And, in like manner with the
functions, each mental faculty is only to be strengt
by the exercise of itself in particular. Every p
our intellectual and moral nature, stands, in th
spect, exactly in the same situation with the blacks
right arm and the lower limbs of the inhabita
Paris: each must be exercised for its own sake,

The fatal effects of the disuse of the mental fa
are strikingly observable in persons who have the
fortune to be solitarily confined, many of whom b
insane, or at least weak in their intellects. It i
observable in the deaf and blind, among whom
the non-employment of a number of the faculties,
ness of mind and idiocy are more prevalent than

t it ought to be. The means of obtaining plea-
ave swallowed up the end. The glorious face of
, with all its sublime and beautiful alternations;
lights of social life; the pleasures arising from
rcise of the finer feelings and the cultivation of
llest; all that higher class of gratifications which
has designed a moderate labour to place within
ch of *all* her creatures, have been lost to such

absurdity of an ignorance or weakness of this
perhaps still more striking, when it occurs in
uals who make the acquisition of knowledge the
im of life. As the world is at present situated,
ossible to acquire learning upon almost every
, and an infinite amount of knowledge, useful
herwise, without even by chance lighting upon
vledge of the most indispensable observances
ry for the preservation of a sound mind in a
body. Half of the multiform languages of Asia
e mastered, while the prodigy who boasts so
earning knows not that to sit a whole day within
t close study is detrimental to health; or, if he
so much, deliberately prefers the course which
ruin. Leyden, an enthusiast of this order, was
a fever and liver complaint at Mysore, and yet
ed to study ten hours a-day. He eventually
his thirty-sixth year, under the consequences
ding some time in an ill-ventilated library, which
acquaintance with one of the most familiar of
ences would have warned him against entering.
der Nicoll, a recent professor of Hebrew at
, of whom it was said that he might have walked
wall of China without the aid of an interpreter,
the same age, partly through the effects of that
study which so effectually but so uselessly had
him distinction. Dr Alexander Murray, a similar
, died in his thirty-eighth year, of over-severe
making the third of a set of men remarkable
same wonderful attainments, and natives of the
untry, who, within a space of twenty years, fell
to their ignorance of the laws of mental exer-
a 1807, Sir Humphry Davy prosecuted his inquiry
alkaline metals with such inordinate eagerness,
rough excitement and fatigue, he contracted a
ous fever, which he, in ignorance of the human
ogy, ascribed to contagion caught in experi-
g on the fumigation of hospitals. His physician
no loss to trace it to his habits of study, which
ch as would have soon worn out a frame much
obust. Davy at this time spent all the earlier
the day in his laboratory, surrounded by persons
y rank, whose admiration of his experiments
to his excitement. Individuals of the highest
ion "contended for the honour of his company
er, and he did not possess sufficient resolution
t the gratification thus afforded, though it gene-
ppened that his pursuits in the laboratory were
pended until the appointed dinner hour had
On his return in the evening, he resumed his
al labours, and commonly continued them till
r four in the morning, and yet the servants of
ablishment not unfrequently found that he had
efore them."* Over-tasked nature at length
under his exertions, and it was with the greatest
y that he was restored to health. Excessive
tion is known to have in like manner thrown
ave into a species of delirium for six weeks, and
e on one occasion given a severe shock to the
of Newton. It unquestionably cut short the
Sir Walter Scott, and also of the celebrated
, whose mournful exclamation in the midst of
nerous engagements can never be forgotten:—
d that I were a tailor, for then I should have a
's holiday!"

premature extinction of early prodigies of genius
rally traceable to the same cause. We read that,
ll other children played, they remained at home
y; and then we learn that they perished in Con-

* Paris's Life of Sir Humphry Davy, p. 103.

ciety.

It ought to be universally known, that the uses of our intellectual nature are not to be properly realised without a just regard to the laws of that perishable frame with which it is connected; that, in cultivating the mind, we must neither overtask nor undertask the body, neither push it to too great a speed, nor leave it neglected; and that, notwithstanding this intimate connexion and mutual dependence, the highest merits on the part of the mind will not compensate for muscles mistreated, or soothe a nervous system which severe study has tortured into insanity. To come to detail, it ought to be impressed on all, that to spend more than a moderate number of hours in mental exercise diminishes insensibly the powers of future application, and tends to abbreviate life; that no mental exercise should be attempted immediately after meals, as the processes of thought and of digestion cannot be safely prosecuted together; and that, without a due share of exercise to the whole of the mental faculties, there can be no soundness in any, while the whole corporeal system will give way beneath a severe pressure upon any one in particular. These are truths completely established with physiologists, and upon which it is undeniable that a great portion of human happiness depends.

REPOSE A CONDITION DEMANDED BY EXERCISE.

Exercise demands occasional periods of repose, and, in particular, that a certain part of every twenty-four hours be spent in sleep. After having been engaged in daily occupations for fourteen or sixteen hours, a general feeling of fatigue and weakness is induced; the motions of the body become difficult, the senses confused, the power of volition or *will* suspended, and the rest of the mental faculties, becoming more and more inactive, sink at length into a state of unconsciousness. The sense of sight first ceases to act by the closing of the eyelids; then the senses of taste and smell become dormant; and then those of hearing and touch. The muscles, also, dispose themselves with a certain reference to ease of position, those of the limbs having grown indolent before those that support the head, and those that support the head before those of the trunk. In proportion as these phenomena proceed, the respiration becomes slower and more deep, the circulation dimi-

indigestion; for which reason th
Haller considered dreaming to be a
It is certain that the dreams of he
lightest and most evanescent.

The kind of bed on which we r
tion. Some are advocates for a
beds; hence some accustom thems
others to mattresses. The only
soft and a hard bed is this—that t
in a soft bed presses on a larger su
bed, and thereby a greater degree
Parents err in fancying that a very
to harden the constitution of their
reason they lay them down on ma
boarded bottoms. A bed for yo
be too soft, provided the child do
such a manner that the surround
bend over and cover the body. T
of beds, says Dr Darwin, frequent
the shape of infants, by causing
few parts at a time; it also cau
uneasy and unrefreshing. The u
rived from other animals evinces
trine, both in respect to the softn
warmth of their beds. Birds li
young with feathers; the eider
pluck the down from their own b
softness of the beds of their tende
over them with their wings, or
bosoms, for the sake of warmth.
better that weak children should
than alone; for, in this case, if
becomes cold, the child instinctiv
contact with the warmer body o
also, it is better for a new-born i
mother in winter, or with its nur
crib by the bedside. When in b
always higher than the feet, a
palpitation of the heart should lie
high. Night clothes should neve
a chemise or shirt of cotton or lin
beneath. It is also highly impro
overloaded with clothes; the bo
and feverishness and restlessness i
persons who complain of sleeplessn

s vessels, should not lead, if long persisted in, to
y bad consequences. Those who are compelled to
edentary, should make it their endeavour to obtain
fficiently high temperature, either by warming their
rtments sufficiently, or thickening their clothing.
mmon fires, though delightful from their cheerful
, are confessedly very inadequate, in most circum-
ces, to heat large work-rooms, school-rooms, or
n the larger class of sitting-rooms; not to speak of
great objection which has been made to them on
score of economy, three-fourths of their heat being
off through the chimney. It is most desirable that
e means in which the public could have confidence
e devised for thoroughly, and at the same time
lthily, warming large apartments. Stoves enclosed
large iron-plate cases (Arnott's stoves), pipes of
water or of steam, and blasts of heated air, are
ongst the most conspicuous plans tried within the
few years. But none of these plans seems to have
ceeded in obtaining the hearty approbation of the
blic, chiefly, we suspect, from their not being ac-
panied by what is peculiarly necessary where they
in operation, a means of ventilation. We can
ak from some experience in favour of the plan of
e steam-tubes, accompanied by a ventilating pro-
; and have very little doubt that, with the latter
nisite, this and several other of the recently sug-
ted modes of heating might be found to serve the
ired end. It is certainly of great consequence that
e plan should be generally consented upon for
ming the large rooms in which scholars and work-
ple spend so much time, as the chilliness there so
erally experienced is a fatal underminer of the
man constitution.

lothing should be in proportion to the temperature
the climate and the season of the year; and where
re are such abrupt transitions from heat to cold as
ur country, it is not safe ever to go very thinly clad,
e may in that case be exposed to a sudden chill
re we can effect the proper change of dress. Very
l effects often result to ladies from incautiously
ping out of heated rooms in the imperfect clothing
ch they ludicrously style *full-dress*: all such injuries
ht be avoided by putting on a sufficiency of shawls,
allowing themselves a little time in the lobby to cool.
under-clothing in this country should be invariably
lannel, which is remarkably well calculated to pre-
e uniformity of temperature, as well as to produce
althy irritation in the skin. While the value of
fortable clothing is fully acknowledged, we should
er lose sight of the value of exercise for keeping up
ndly glow upon the surface, and for the support of
gh tone of general health. Any one who, neglect-
this, should live constantly in a warmed apartment,
nly go out of doors muffled up in a load of clothes,
ld speedily suffer from a relaxed state of the sys-
, and become so susceptible of damage from the
litest change of temperature in the atmosphere,
the most dangerous consequences might be appre-
ded.

Wet clothes applied to any part of the body, when it
an inactive state, have an instantaneous effect in
ucing the temperature, this being an unavoidable
ct of the process of evaporation which then takes
e. Hence it is extremely dangerous to sit upon
p ground, or to remain at rest for a single minute
wetted feet, or any other part of the body invested
amp garments. Dampness in the house in which
live has the same effect, and is equally dangerous.
chill produced by the evaporation from the wetted
face, checks the perspiration, and sends the blood
ards to the vital parts, where it tends to produce
ammatory disease. Few persons seem to be aware
hese truths. We find young men heedlessly getting
r feet wet, and sitting with them in that condition,
eby incurring the most deadly peril. Young women
mit a similar folly, when they walk out in thin
es in a wet or cold day. Exposure to wet, damp, or
d, is of comparatively little moment when the body

out-of-door labourers, and also poor people in damp lodgings, than rheumatism. This is an affection produced solely by a violation of the natural law which demands that the body should not be chilled. Rheumatism is produced alike from exposure to a shower or to a draught of cold air when the body is warm, and from sitting with the feet on a cold stone or clay floor; the only difference, perhaps, being that the rheumatism is in one case in the shoulders and in the other in the legs. Let us therefore impress on all the propriety of avoiding chills, the effects of which may be much more fatal than a simple attack of rheumatism. When rheumatism has been contracted, the best remedy for its expulsion, if adopted in time, is friction of the part; if well rubbed before a fire with flour of mustard, so as to cause a counter irritation on the surface, the internal complaint may be expelled.

ERRORS IN DRESS.

This is perhaps the most appropriate place in which to introduce some remarks upon errors in dress. The integuments which nature calls upon us to put on for the sake of warmth, are too often made the means of inflicting serious injury, either through ignorance or caprice. It is therefore necessary, in a treatise on the preservation of health, to advert in emphatic terms to this subject.

It is scarcely too much to say, that there is no part of the human frame, from the sole of the foot to the crown of the head, which has not been, and is not at this moment, mistreated by fashion. We laugh at the Chinese ladies, who have their feet constrained by iron moulds into mere bulbous appendages to the limbs; but we never reflect that, amongst ourselves, errors only inferior in degree are constantly committed. The foot naturally spreads out, fan-like, from the heel to the toes. But, instead of having our shoes formed in the same triangular shape, they are made in a lozenge form, truncated at the front, the toes being thus perverted from their radiating arrangement into one exactly the opposite; so that they become crushed under one another, and deprived of a great part of that muscular power by which they were designed to propel our bodies in walking. In the greater height usually given to the heels of shoes, another important deviation from nature is committed. When the heel is raised above

more think, speak, and act, than
guishing looks without eyes, or
witching minstrelsy without a tong
the natural state, the external figu
pers gently downwards. The wai
Medici is of that form, and its p
never challenged. But the wom
world have set up for themselves
of beauty. A fine waist, in their
which tapers rapidly below the ar
two-thirds of the natural girth.
strictly round, although the waist of
the oval. In order to reduce th
sired shape and space, almost all
not a few of those who are otherwi
in a greater or less degree with cor
produce the requisite roundness a
at the expense of all the internal
health depends. The false ribs ar
the respiratory and circulatory syst
thrust out of their proper place; th
is deranged; and even upon the ex
deformities of the most glaring kin
shoulders and curved spines, are pr
a certain extent enables the victi
convenience; there are even som
trouble from it, as to deny that any
tight-lacing. But a violation so gr
wise than mischievous. We have
sash which measured exactly twent
ing that the chest to which it was a
duced to a diameter (allowing for e
than seven inches. All who are a
organs at that part, know very well
for them to exist in their natural
small a space. Bruised, impeded, a
must of course be, and accordingl
come a source of dreadful sufferi
being who outrages them. Palpitat
pepsia, determination of blood to
sumption, are among the evils wh
merate as flowing from this sacrif
other of a moral kind is acknowled
means infrequent occurrence: in
painful sensations produced by th
tuous liquors and cordials are mo

› for our happiness, and might have been avoided fferent course of conduct.

fashion of tight-lacing obviously owes its origin sire on the part of the ladies to attract admira- It is of little importance to point out that they ite wrong in their calculations as to the effect ; e would press upon the guilty parties, and erested in their welfare, that tight-lacing is a e which cannot be long persisted in without the isastrous consequences. It is painful to reflect, arents, so far from discouraging the practice, ignorant as often to force it upon their children. ve heard of a young lady whose mother stood er every morning, with the engine of torture in and, and, notwithstanding many remonstrative obliged her to submit to be laced so tightly as to stop the power of breathing. The result is, ie unfortunate victim is now severely afflicted sthma, and has fallen into a state of low health. eneral rule, it cannot be too strongly impressed hose who have the care of young persons, that thing should sit lightly upon the figure, so as to f the full play of every part of the system.

INNOCENT ENJOYMENTS.

nfficiency of innocent enjoyments has been set as the sixth requisite towards the preservation of . It may seem almost superfluous to treat this f the subject, since the disposition to take amuse- is one by no means generally wanting. A regard, er, for the completeness of our little treatise en- us to make a few remarks on it; and we are not ed that there is not a considerable number of as to whom an injunction to take innocent enjoy- is needful. There may be a general advantage ng the matter placed on something like a philo- al basis.

hysiological doctrine seems more entitled to faith gard, than that a harmonious exercise, in mode- of all parts of the system, including the organs mental faculties, is necessary for health. It is by the very craving which we experience, after task, or a long perseverance in some particular for something which will engage a different set ties. There is nothing which will pleasingly our thoughts for any considerable length of Something inferior will invariably be preferred, ly be new. Now, the duties by which men in earn their subsistence, are in all cases of such as only to call into exercise a part of their and bodily system. Something is required, at soothe and compensate us for the drudgery of rent labours, and to bring into exercise those f our muscular frame and intellect, which pro- al duty has left unoccupied. To begin with an illustration: how delightful to a tailor, after ercising his fingers and arms alone at his busi- enter into some athletic sport upon the village- by which his limbs also will be exercised! After er has fagged for a day at a brief, how delightful ible, by the reading of a new novel or play, to call other set of the intellectual powers! In these s from grave to light occupation, there is at once given to the tasked faculty, and the gratification loyment given to others which have been pining t of something to do. It so happens that, from ntient nerves being mixed with those which direct erations of all our organs, each organ has a sense joyment in being rightly exercised. Even the ch has, from this cause, a gratification when its ons are going on well, and this altogether inde- t of any pleasure we may have had in eating the upon which it is now employed. An organ left unoccupied is thus somewhat like a child in a which its parents have been overlooking.* It s to be noticed like the rest, and, when the desired at length comes, it experiences a high degree of action. In short, variation of occupation and pur-

suit, for the purpose of keeping all the parts of the system in harmonious exercise and in healthy tone, is one of the most important principles concerned in the preservation of health.

There are several powers of the mind which must have been designed for the express purpose of creating and receiving amusement, and the existence of which, therefore, shows that amusement has a place in the right economy of human life. The imitative arts in general, music, fiction, drollery of all kinds, spring directly from primitive faculties of the mind; and, when we see the pleasure they give in society, we cannot doubt that they are things naturally required by man, and in which it is quite legitimate for him to indulge within moderate bounds and in circumstances compatible with innocence. These things are doubtless designed to alleviate the burdens of life and beguile us of its cares. They furnish something like a different sphere of existence, into which we may enter and temporarily lose the sense of all that harasses us in the ordinary one. The *joculator* —under which name our ancestors associated the poet, tale-teller, and mimic, and which we may apply equally extensively to the poet, novelist, artist, and player—is therefore a most useful functionary in society. We say nothing on the present occasion of the refinement to be derived, in addition, from communion with the productions of the higher class of such minds.

Amongst amusements, *reading* takes a most distinguished place, for there is none which may be more readily or more innocently indulged in, and fortunately, in our own country, it is one which may now be enjoyed by all. It is unquestionably the chief of in-door amusements; and few scenes are calculated to awaken more agreeable feelings in a well-constituted mind, than a family group assembled in their parlour, to hear some one of their number reading a pleasant book. Ever honoured be the great masters of fiction, who have allowed us, by these means, to pass from common life, for a time, into "the tale of Troy divine," the story of "the gentle lady married to the Moor," the tear-compelling fate of Ravenswood, and all the other numberless suppositions of things done, and persons who spoke and acted, which we feel to be more real than much of even the life that is passing around us!

Next to reading stands *music*, a means of enjoyment of which only a few comparatively, in our country, take advantage, but which might easily be made much more extensively available, and probably will be so in the course of a few years. Connected intimately with music is *dancing*, which is not only a cheerful amusement, but a positive and direct means of bodily exercise. A family musical or dancing scene, like a family reading scene, is a thing beautiful to look upon. There is a prejudice against both in some minds, on account of their being liable to abuse; but the abuses of both arise very much from their not being extensively or freely indulged in. Were music the general accomplishment which it might easily be made, it would not only be indulged in on all occasions with simplicity and innocence, but it would supplant coarser and more clandestine amusements. Dancing is the nightly amusement of the French peasantry, and it has never been pretended that these people are less virtuous than the corresponding class in our own country. *Theatrical representations* it might be more difficult to place on such a footing as to secure the unhesitating approbation of the good; but certainly, if this were done, they might prove highly serviceable in furnishing amusement.

In the class of amusements we must reckon meetings or promenades in ornamental grounds, excursions into the country, and little tours, all of which are highly commendable in those who are able to indulge in them. The entertainment of little parties of friends, and the going out to entertainments given by them in return, are other means of amusement common in society, and which may be moderately indulged in with much advantage. In short, whatever gives a pleasant variation to the monotony of life, without leading the mind away from duty or corrupting the manners, ought to

be indulged in as freely as circumstances will permit. The mind returns from such diversions with renewed tone and power, and neither the time nor the expense is lost in the long run. It is the more necessary to impress these maxims, as many well-meaning persons, alarmed perhaps at the occasional abuse of such enjoyments, repudiate them nearly altogether, and thereby lower the tone of their health, both as respects the body and the mind. It is particularly distressing to see such persons exercising a control over the young, and denying to their unfortunate protegés an element of life not much less pressingly necessary than the air they breathe.

Dr Southwood Smith, in his excellent work "The Philosophy of Health," has pointed out that pleasure is the ordinary, and pain in all cases an extraordinary, result of the action of our organs. "There are," he says, "many cases in which pleasure is manifestly given for its own sake; but in no case is the excitement of pain gratuitous." Pain is always a punishment; and, when it reaches a certain extreme, it is destructive of what feels it. But "all such action of the organs as is productive of pleasure is conducive to the perpetuation of life. There is a close connexion between happiness and longevity. Enjoyment is not only the end of life, but it is the only condition of life which is compatible with a protracted term of existence. The happier a human being is, the longer he lives; the more he suffers, the sooner he dies: to add to enjoyment is to lengthen life; to inflict pain is to shorten the duration of existence." It may fairly be presumed, then, that a certain amount of enjoyment in life is necessary for health, and that when the quantity actually secured is much below that point, unhealthy conditions must ensue. If, for example, poverty or embarrassed circumstances press so severely upon a cautious and conscientious man, as to leave him scarcely a moment's comfort from one year to another, he cannot fail to sink in health. If married to a female of bad temper, or who afflicts him by bad habits, and if, from these causes, he rarely enjoys a moment of happiness, so also must his health fail. In short, to be placed in any such circumstances as constitute a bar against nearly all enjoyments, must prove injurious, and tend to the shortening of life.

Enjoyments are of many kinds. Some are sensual, as the taking of agreeable food; others are intellectual, as agreeable music, reading, &c.; others are moral, as the exercise of philanthropy, the religious feelings, &c.; and some are sympathetic, and consist in the exercise of the affections and the reflection of that gratification which we have endeavoured to impart to others. We may consider as such all things over and above the plainest unrelished fare, and the supply of water, air, and a barely sufficient temperature. These are usually considered as strictly the *necessaries* of life, the others being the comforts or luxuries. The distinction is not quite correct. The first class are certainly immediately necessary to the support of life; that is to say, they are hourly, daily necessary. But more or less of what are called the comforts of life are also necessary, if we would preserve health. The only difference is, that the want of them would not tell in so short a time as the want of the so-called necessaries. If a human being be shut up in a cell, and allowed only a sufficiency of unrelished and unvaried food, with air and water, the want of all the enjoyments of life, sensual, intellectual, moral, and sympathetic, will in a certain time make him utterly miserable; the health of body and mind will give way; and if the experiment be sufficiently protracted, he will perish. The ignorance which prevails on this point has led to the trial of what is called the *silent system* in prisons, which is now about to be abandoned as utterly irreconcileable with humanity. It were well if more knowledge prevailed on the subject, for, from erroneous ideas of what is *necessary* for healthy life, many deprive themselves or others of things which, when we take the element of time into account, are as essential to health as the supply of the air we breathe. There is, in some enthusiastic minds, a spirit of asceticism and self-mortification which would give up all the enjoyments together. Such persons rarely fail to reduce health, if they do not also exercise some unhealthy control to the same effect over their fellows. While self-denial for moral purposes is always admirable, and over-indulgence of every kind saps the energy and fortitude of the human character, it should be kept in view that there is great danger in reducing allowance of comforts and indulgences too low. Too rigid views of what is necessary for the support usually prevail, wherever the affluent have to frame a style of living for the poor. The tendency is to reduce allowances as nearly as possible to what may be called the *immediate necessaries*; for it does not seem just or right that paupers, adults or children, should enjoy any species of gratification. But these are short-sighted views. The health of these unfortunate persons requires something more, and this something would be granted by an enlightened humanity. We have a strong manifestation of this need in the eagerness with which paupers generally desire a small allowance of tea or tobacco, or indeed the least variation in their diet. The craving for these luxuries is not to be met by what it is generally thought solely to be, the force of bad habits long indulged in, as it is the expression of a want in the personal economy—a want which, by some means or another, must be supplied, or injurious consequences will ensue.

EXEMPTION FROM HARASSING CARES.

It is little more than a repetition of doctrine already laid down, that, for health, a human being requires exemption from acute distress of mind and from harassing cares.

Mental distress and anxiety operate through the brain upon the condition of the whole body, and when long protracted, effectually undermine the health. "It is impossible," says Dr S. Smith, "to maintain the physical processes in a natural and vigorous condition while the mind be in a state of suffering. Every one must have observed the altered appearance of persons who have sustained calamity. A misfortune, that struck to the heart, happened to a person a year ago: observed him some time afterwards—he is wasted, worn, the miserable shadow of himself; inquire about him at the distance of a few months—he is no more." Dr Smith's opinion that the nearest cause of many deaths is not strictly a desire to escape from a state of misery, but some disease, probably inflammation of the brain, brought on by distress of mind. "By a certain quantity and intensity of misery, life may be suddenly destroyed; by a smaller amount and intensity, it may be slowly worn out and exhausted. The state of the mind affects the physical condition; the continuance of life is dependent on the physical condition; it follows that the degree in which the state of the mind is capable of affecting the physical condition, it is capable of affecting the duration of life."

Depression of mind, besides its immediate effect on the nervous system, deranges the respiration and the proper oxygenation and circulation of the blood. A diminished vitality is the consequence, often leading to pulmonary consumption. An excessive degree of fear and alarm of the selfish feelings, such as takes possession of some minds on the approach of an epidemic, also affects the whole system in such a way as—to use an expressive phrase of Dr Combe—"places it on the brink of disease," and hence the notoriously great liability of persons in this state of alarm and apprehension to fall victims to the malady when it comes. It has been remarked that an army in a high state of confidence and cheerfulness after a victory, has a much smaller proportion of sick than in the opposite circumstances, or even in its ordinary condition. The usual proportion of sick in a garrison quartered, during peace, in a healthy country, is five per cent.; during a campaign, when there is more anxiety of mind, it is ten; in the event of a defeat, although the circumstances be otherwise not unfavourable, the proportion rises to a much higher amount

ery instructive fact, that in a large detachment of French army cantoned in Bavaria immediately the battle of Austerlitz, the proportion of sick ittle more than *one* per cent.

GENERAL OBSERVATIONS.

e fundamental principle of all efforts to improve preserve health has been thus stated:—"Man, as ganised being, is subject to organic laws, as much e inanimate bodies which surround him are to mechanical and chemical; and we can as little e the consequences of neglect or violation of those al laws, which affect organic life through the air reathe, the food we eat, and the exercise we take, stone projected from the hand, or a shot from the h of a cannon, can place itself beyond the bounds avitation." It may be added, that "all human ce, all the arts of civilised man, consist of disco- s made by us of the laws impressed upon nature e Author of the universe, and the applications of laws to the conditions—which are laws also—in h man and the particular bodies and substances nd him, are placed; nor, it is manifest, should any ce concern us more than that which relates to the itions on which organic life is held by each indi- al."

e preceding sections are but explanations, such have been able to afford, of the conditions under h the organic frame of man exists, and the agen- internal and external, which operate upon it, for maintenance of health or the introduction of dis- . It must be evident, where there is a conviction e truth of the fundamental doctrine, that indivi- and societies have their health very much at their disposal; that a careful avoidance, on the one , of what is noxious, and a judicious attention to t is beneficial, are what are chiefly necessary for the ervation of the human frame in health to old age; that premature deaths, over and above those which t from unforeseen casualties, instead of being, as osed by the untutored mind, a mysterious and ersible decree of Providence, are simply the na- l effect of our own violation of laws which Provi- e has appointed for our welfare. It might still bjected that human nature is such, that the due lience and observance of those natural ordinances not to be expected; so that the vast quantity of dis- and the great number of premature deaths, which t our present state of being, are equally to be re- ed as things immutable, and therefore to be tran- ly submitted to. But this view would be not less istaken one; for there is no fact more clearly ascer- ed, than that disease and premature death are not, never have been, fixed at any given amount, but d constantly to the power of any new conditions ch man may be able to introduce. Regarding clear s on this subject as of great importance, we shall e enter a little into detail.

The object is, we apprehend, to show that sickness mortality vary both in place and in time, according hysical and organic conditions.

nquiries into these subjects were not made in ient times; but, during the last two hundred years, h facts have been recorded as enable us to ascertain , in that space of time, with regard to nearly the le of Europe, there has been a gradual improve- t in health and life, in proportion to improved con- ons. In Sweden, for instance, between 1756 and , the annual mortality was, for males, 1 in 33¼; females, 1 in 35⅔; whereas, in the year 1800, it had inished to 1 in 34¾ for males, and 1 in 37½ for ales. From mortuary tables preserved with con- rable accuracy at Geneva, it appears that, at the of the Reformation, one-half of the children born within the sixth year; in the seventeenth century, until the twelfth year; in the eighteenth century, until the twenty-seventh year; consequently, in the e of about three centuries, the probability that a child born in Geneva would arrive at maturity has increased fivefold. In London, in the year 1606, the annual deaths were 1 in 14½, or 7 per cent. of the population; and in plague years during that century, it reached 25 in 100, or every fourth man, woman, and child! *In* 1838, *it was only* 1 *in* 35½. Knowing that, at the former period, the city was dense and ill-cleaned, and that the habits of the people were not then what they are now, we cannot doubt that this diminution of mortality to less than one-half is owing to the improved conditions in which human beings now live in the metropolis. Between the years 1730 and 1750, 74 of every 100 children born in London, died before they were six years of age; but in more recent times, only 31 and a fraction out of every 100 die under the same age; that is to say, the deaths of children in London were then more than twice as numerous as they are now. About a century ago, the mortality of the children received into the London hospitals was of astonishing amount. Though the fact seems scarcely credible, we believe there is no good reason to doubt, that, of the 2800 annually received, 2690, or *twenty-three in every twenty-four*, died before they were a year old. It was at length seen that this mortality was the effect of over-crowding, impure air, and imperfect aliment; and, after an act of parliament had been procured to compel the officers to send the infants to nurse in the country, only 450 out of 2800 died in the first year. It has been ascertained that, during the last century, about a third has been added to the average expectation of life; that is to say, an individual now has as good a chance of living forty years, as he had a hundred years ago of living thirty. To what can such a fact be owing but to the diminution of the causes of disease in the improved conditions of the people?

The facts ascertained with regard to differences of mortality in different places are equally striking. A remarkable instance of the effect of marshes upon health is cited by M. Villermé. Formerly the district of Vareggio in Tuscany was in this condition, and its few miserable inhabitants were every year visited by severe agues. In 1741, floodgates were erected to keep out the sea, the marsh was dried up, and ague appeared no more. Vareggio subsequently became a populous and healthy district. The Isle of Ely is a marshy district in the east of England, and it was ascertained that, of 10,000 deaths which occurred in it between the years 1813 and 1830, no fewer than 4732 were of children under ten years of age; the proportion of deaths of children under ten in all the other agricultural districts of England being only 3505, or as about 3 to 4 of the former number. Of 10,000 deaths between ten years and extreme old age, in the same period, there were, of persons between ten and forty, 3712 in the Isle of Ely, and only 3142 in drier districts. There are some remarkable discrepancies of mortality in different counties of England. While the proportion of annual deaths in every hundred persons under six years of age is, for the whole of England and Wales, about five and a third, the proportion in Suffolk is three and a half, in Warwick six, in Middlesex eight and a third. Suffolk is an agricultural county; Warwick contains Birmingham and some other large towns; and the metropolis is situated in Middlesex: can we resist concluding that the pure air and constant exercise which children obtain in the country are the immediate means of prolonging their lives; while the narrow accommodations, impure air, and limited exercise, to be had in large towns, have exactly the contrary effect? In the general population of England, 443 in 1000 die under ten years of age; but in Manchester and Salford the number is a third larger, or 602. Here, the miserable circumstances of many of the humbler classes in Manchester—above eighteen thousand of them, for one thing, living *in cellars*—must be considered as the immediate cause of the disproportioned mortality. While the general mortality of London is, as stated, 1 annually in 35½, there are great differences with respect to different districts. In Camberwell, an open suburban district, it is

was, respectively, as we go from the roomiest to the closest, 131, 161, and 349. The proportion of sickness and mortality which the poor suffer in comparison with the rich, is thus placed in a striking point of view. Precisely similar results have been discovered in Paris. M. Villermé has there ascertained, that the deaths in some poor arrondissements are just double what they are in the rich. He states that, taking the whole of the French population, human life is protracted twelve and a half years among the wealthy beyond its duration among the poor; consequently, in the one class, a child, newly born, has a probability of living forty-two and a half years; in the other, only thirty years.

Taking the whole of the above facts into account, we must see that not only do health and longevity depend expressly on laws, the operation of which we can understand, but man has it in his power to modify to a great extent the circumstances in which he lives, with a view to the promotion of his organic well-being and preservation. We see that the draining of a marsh banishes the ague, that a change from city to country air diminishes mortality, and that the greater comforts possessed by the affluent secure them longer life than the poor. It may not immediately be in the power of every one to change his circumstances from the unhealthy to the healthy; but it is a great matter to know that the object is within human power, for then at least an encouragement is held out to induce each individual to make every possible effort to put himself, and to contribute to putting society, into more salubrious conditions.

The object may be said to depend partly upon individual and partly upon social efforts. Every person has some control over the quantity and quality of the food he eats, the condition of the air he breathes, and the exercise, repose, and recreation which are demanded by his muscular and nervous system, according to the principles laid down in this and similar treatises; as also some power to refrain from injurious excesses, and to avoid the various external agencies of a detrimental kind, which constantly beset him. Let him act as he ought to do in these respects, and he will reap an immediate reward in that pleasurable state of consciousness which attends a healthy condition. But some of the most important requisites for health depend on public measures. The amount of the necessaries was stagnant; large open ditches liquid filth; houses dirty beyond de washed or swept, and extremely bitants; heaps of refuse and rub animal remains, at the bottom of corners." [The amount of noxic hoarded or allowed to rest in Le what most of its inhabitants have as is the case with most other c solely affecting the poor.] In Mar sons, or one-twelfth of the whole live beneath the level of the ground, of both light and air. In that to labourers are often built in close back to back, so as to prevent ve are far from sufficient, and there is free space in which the people ca recreation. In Liverpool, 39,000 pe dark, damp, confined, ill-ventilated, next above, to the number of 80 built around small courts, closely p with only one entrance to each, and for refuse in the centre; an arr pears as if it had been expressl health low and mortality high. style of building obtains, with a sim stances, "no effective drainage, i of paving or cleansing." The grea was described in 1839 as "in a n demanding an immediate remedy." that in a certain dirty yard, there for many years had been the seat malignant character: three years the commissioners of police was tremely imperfect drainage of th that time a better escape for the n vided; and since that period, sa believe, *we have not had a single ca particular locality.*" Narrow alle with wet filth constantly exhaling taining a close huddled populatio persons, exist in Edinburgh, whe posure to high winds makes the In Glasgow, a comparatively level liarity exists to perhaps a greate other British city. This, added to

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NFORMATION FOR THE PEOPLE.

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COMMERCE—MONEY—BANKS.

COMMERCE.

has been defined by some naturalists as an *exchanging animal*—an animal who buys and sells, that a thing performed by no other living creature, herefore suitable as a distinction in character, t others, much more exalted, might readily be The practice of exchanging one commodity for er is doubtless coeval with the first herding of ind together. No man, even in the rudest savage and who lives in the society of neighbours, can atisfied with such objects as he can procure or by his own labour. He must depend on others istance, while he assists them in return. The ator of the ground would exchange some of its e for an animal from the flocks of his neighbour; oth would be glad to give a portion of their wealth n clothing or weapons made by a third party. *exchanging* becomes a matter of convenience n two parties, each of whom is anxious to obtain e of the other's goods for a share of his own, and tual advantage is the result. Such desires and es must have been displayed in the very earliest s of society. No nation of African or Indian es is ever found without a strong inclination to nge the rude products of their country for the s possessed by the traveller; an ox or sheep perhaps eagerly offered by them for a single e, a nail, or a small toy looking-glass.

mankind advance in their social condition, the ge of exchanging increases; the desires and necesbecome more urgent; each person finds it more able and agreeable to adopt and hold by one fixed yment, and to sell the produce of his labour for ety of articles made by others, than to attempt to every thing for himself; and, finally, for the of convenience, a class of persons are engaged to t the exchanges from one hand to another. In mproved condition, the production of articles of al consumption is called *manufacturing*; while department of industry in which the exchanging ansacted is called *trade* or *commerce*. For still er convenience, the business of exchanging is itted to several orders of traders—the wholesale hants, who in the first instance purchase large tities of goods from the producers; the retail rs, who have been supplied in smaller quantities the merchants, and sell individual articles or le portions to the public; and to these sometimes ntermediate dealer is added. In this manner the ler from the workshop of the manufacturer to the e of the actual consumer is interrupted by several ct processes of exchange, in which each seller s a certain profit at the expense of the person has ultimately to buy and use the article. It is a iple of trade, that the fewer hands through which any article is made to pass, the better for the consumer, because the article can be brought with the least burden of profits, or at the lowest price, into general use. But this principle, sound as it is in the abstract, is counteracted by another which must on no account be lost sight of. This is the principle of *convenience*. A manufacturer engaged deeply in his own pursuits finds it more profitable and agreeable to sell his articles in large than small quantities. The maker of millions of yards of cloth has no time to spend in selling single yards. If he were compelled to sell by retail, he would have no time to conduct his affairs; he could manufacture only a small quantity, and, therefore, being limited in his amount of produce and sales, he must take larger profits. Thus, upon the whole, it is much better for all concerned to allow the manufacturer to pursue his own way in selling only very large quantities to wholesale merchants. To these traders the same rule may be applied. They seek out the seats of manufacture; and, purchasing a large variety of goods, they send them to the towns and places where they are required by the public, and there the articles can be had individually from a shop. It is evident that if any man wish to buy a handkerchief, he may procure it much more cheaply from any shop in which such things are sold at an advance upon the original cost, than if he were to travel perhaps hundreds of miles to the house of the manufacturer, and there make the purchase. The use of an intermediate class to conduct exchanges is thus very conspicuous; and any attempt to revert, generally, to the original practice of causing the maker to deal with the consumer, would be entirely incompatible with an enlarged system of trade between different countries, or even between different places in the same country. We say generally, because there are instances in which makers may, with advantage to themselves and the community, sell their produce in small quantities or single articles to the public; but these are exceptions to a common rule.

Convenience, it is evident, forms a guiding principle of trade, and requires the same consideration as the actual value of an article. This, however, has been recognised only in very recent times. At one period there were laws to prevent farmers from selling their grain in a large quantity or by the lump, without exposing it in an open market. Such laws were manifestly unjust. They interfered with the liberty of the farmer, who in his capacity of manufacturer had surely a right to sell his produce in whichever way he felt it to be most for his advantage. It would be the same kind of injustice, if the law were to prevent a manufacturer of handkerchiefs from selling them at his own workshop to wholesale dealers, and causing him to take them many miles to a certain street in a certain town, and there expose them for sale in small lots to the public. It is of the greatest importance in matters of trade and com-

Africa and Europe. Unfortunately, the intelligence which was so disseminated was afterwards obliterated by the overruling powers of barbarous and warlike nations; but the efficacy of commerce in modern times is likely to be permanent wherever its influence is extended, seeing that the greatest manufacturing and mercantile people are at the same time the most powerful and most capable of offering protection to those who sustain a commercial intercourse with them. It is exceedingly pleasing thus to reflect on what commerce is capable of effecting, independent of the actual comfort which it produces, wherever it is fairly introduced. By its appeals to the selfishness, the vanity, and other passions, good and bad, of mankind, it appears to be the best of all forerunners to the efforts of the schoolmaster and the missionary. Its influence in this respect has been remarkably exemplified in the boundless regions of Hindostan, which, by the efforts of a company of merchants, have been laid open to the settlement of enlightened men from Europe, who, though by slow degrees, will ultimately spread the blessings of education, and the decencies of social life, among many millions of human beings. In the remote islands in the Pacific Ocean, the influence of commerce has been recently of marked utility. The introduction of articles of a fanciful nature, both for the ornamenting and covering of the person, has induced a desire of following European manners and customs; and as these commodities cannot be procured but by the exchange of native commodities, a spirit of industry has consequently been produced, which cannot fail to be of both moral and physical advantage to the natives. It is always thus with the intercourse which commerce necessarily involves. New tastes are created, and to be gratified, industry must be exerted. But to witness the extraordinary influence of commerce in producing civilised and refined habits, we need not look beyond our own country. Commerce, in this its chosen seat, has caused roads every where to be cut, canals to be opened, railways to be formed, expeditious modes of travelling by sea and land to be effected; all of which great accessories to our comfort have tended in the most wonderful manner to introduce not only useful commodities and personal luxuries, but highly cultivated sentiments, literature, and the arts, into districts which at no distant period lay in a comparatively primitive condition

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such articles in this country;

a said, that 'when we drink beer and porter we me the produce of English industry, whereas, n we drink port or claret we consume the produce he industry of the Portuguese and French, to the ous advantage of the latter, and the prejudice of countrymen!' But how paradoxical soever the as-ion may at first sight appear, there is not at bottom real distinction between the two cases. What is at induces foreigners to supply us with port and et? The answer is obvious:—We either send di-y to Portugal and France *an equivalent in British* ece, or we send such equivalent, in the first place, uth America for bullion, and then send that bullion e Continent to pay for the wine. And hence it is as as the sun at noonday, that the Englishman who s only French wine, who eats only bread made lish wheat, and who wears only Saxon cloth, gives, occasioning the exportation of a corresponding nt of British cotton, hardware, leather, or other ce, the same encouragement to the industry of his rymen, that he would were he to consume nothing immediately produced at home. A quantity of wine and a quantity of Birmingham goods are ctively of the same value; so that, whether we ly consume the hardware, or having exchanged it he wine, consume the latter, in so far as the em-ent of British labour is concerned, it is altogether ferent."*

om these explanations, it will be observed that it material what is given in exchange for imported —whether money or native produce. At the same it must be understood that if money is given, must exist some active industry in the country hich the money is realised. As a general question mmerce, it is of no consequence what is the nature e industry by which the money is produced. It consist in the raising of superabundant crops, or raw produce for exportation, or of manufacturing and comparatively valueless materials into articles lue and demand, or of carrying goods from one try to another. Unless a country possess one or of these branches of industry, it is without the s of paying for imported articles, and must retire the field of general commerce. England is not of ciently large dimensions to export superabundant of grain, but it possesses in an extraordinary e the means of manufacturing mineral and other tances into articles for exchange, and it derives no siderable profit from the carrying of commodities. manufactured goods, therefore, pay for imports of ign articles, including bullion or the raw material oney, and these again, in a manufactured state, are ed for the payment of still further imports. Thus wealth of our country has increased.

PRINCIPLES OF COMMERCE.

he practice of commerce is in a great measure de-dent on mutual good faith, and the integrity of seller buyer, and can in no case permanently flourish re these fundamental qualities are wanting. The or great leading quality, therefore, in the charac-of a merchant, ought to be scrupulous honesty both word and deed. The article which he proposes to ose of must be exactly what he declares it to be, inferior or in any respect unsound in its nature. If ossess any blemishes, these must be announced to buyer before the bargain is concluded, and, if neces-, though at a considerable loss, an allowance made them. The merchant is not less called on to be hful in the fulfilment of all promises which he may e, whether with respect to goods or their payment; ause those to whom the promises have been made y on that account have made similar promises to ers, and, therefore, the breaking of a single pro-e may prove injurious in every link of a whole train transactions. Perfect honesty or integrity is a fun-mental principle of trade; and the next most import-ant are, strict regularity in all proceedings, according to established usage, and also steady perseverance. The merchant must give regular attendance during the hours of business, be regular in executing all orders and answering all letters; regular in the keeping of his books, and in the reckoning of his stock and moneys; in short, he must be methodic and careful in all branches of his concerns, for without this species of attention, the best business is apt to become confused, and to be ultimately ruined. What is true of individuals is true when applied to a whole nation. No people have ever attained opulence and high mercantile consideration, who have not possessed a character for integrity and regularity in all their dealings.

Besides these indispensable qualities in the individual character of a merchant or tradesman, there is required a happy combination of enterprise and prudence with the utmost coolness—enterprise to embrace favourable opportunities of buying and selling, and prudence and coolness to restrain from engaging in over-hazardous and ruinous speculations. In all his transactions, the man of business is understood to proceed upon a cool inflexible principle of doing that which is most advantageous for himself, without fear or favour; because in commerce each party is supposed to be governed by motives of self-interest (always within the rules of honesty and propriety), and is under no obligation to deal from mere personal regard, or any kind of friendly consideration. In commerce there is, strictly speaking, no friendship. If there be friendship among the parties concerned, it is a thing aloof from business transactions—a matter of private arrangement—and is only to be regarded as such. On this account, even among the most intimate friends, there must be an exact mode of dealing, and the most accurate counting and reckoning.

The British, for several centuries, seem to have been endowed, above all other nations, with those qualities of mind which are suitable for the conducting of commerce on an enlarged and liberal scale. Their integrity, persevering industry, enterprise, prudence, and liberality of sentiment, have never been excelled. In patient industry they have been rivalled by the Dutch; but in point of enterprise and liberality, that people have fallen far short of them, and their trade has languished accordingly. The British are pre-eminently a commercial as well as a manufacturing people. Taking them generally, they possess a spirit of restless industry, which renders them actually unhappy unless when busily engaged in some pursuit calculated to enrich them, or at least to produce for their families the means of a respectable subsistence. The Americans, who are but a branch of the same British stock, are equally, if not more, remarkable for this fervent spirit of industry; and, though only set up as a separate nation within a period of sixty years, and less distinguished for their integrity and prudence than the English, have already distanced many of those dignified European principalities and powers which first discovered and colonised their country. The French, the Germans, the Spaniards, the Portuguese, the Italians, and others, though each possessing a larger or smaller extent of manufactures and commerce, are obviously deficient, in a national sense, of the eager spirit of industry which is so characteristic of the people of Great Britain. Taken in the gross, they are too apt to addict themselves to amusement in preference to business. They delight in holidays, and will at any time leave their work to mingle in a dance or some kind of buffoonery, in which an Englishman would be ashamed to appear. Scarcely one of the continental nations, moreover, has yet settled down under a well-conducted government appointed by the people. There indeed seems to be little which is settled amongst them. Some of the principal are yet at that stage of social life which was common in England about the reign of Henry VII.; others are not farther advanced than a period considerably earlier; and all have yet a great deal to suffer and to learn before they attain that state of quietude and security to

* Dictionary of Commerce.

dead. In such a case, the business has passed into the hands of new proprietors, who, though legally responsible for its obligations, are not for some private reason inclined to change the old and well-known title of their firm. A particular firm or business-concern is sometimes personified in the term *house*—as, Such a house does a great deal of business, &c.

Company.—Two or more individuals engaged in one business constitute a company or copartnery, each individual being called a partner. Companies are of two kinds, private and public. A private company is organised by a private arrangement among the parties, each having certain duties to perform and a certain share in the concern. In companies of the private and common description, no individual can leave the concern at his own pleasure, for by doing so he might seriously injure or embarrass his partners. He can withdraw only after giving a reasonable warning, by which time is allowed to wind up the concern, or place it in a condition to pay him back the capital which he has risked, or the profits which are his due. No partner, however, can transfer his share to another person, by which a new member would be introduced into the firm, without the consent of the partners.

The profits of partnerships are divided according to a specified agreement or deed of copartnery. Generally, in the case of partnerships of two or three persons, each receives the same share on the occasion of an annual division, but in other cases, a partner may not be entitled to more than a fourth or sixth part of what another receives. The amount of capital which a partner invests in the concern, the service he can be to the business, and other circumstances, regulate the amount of his share. When each of two persons sinks the same capital, but one takes the whole of the trouble, then he on whom the trouble falls, who is called the active partner, is entitled to receive a stated sum in the form of salary over and above his share of profits. Whatever be the share which individual partners have in a concern, the whole are equally liable for the debts incurred by the company, because the public give credit only on the faith that the company generally is responsible. He who draws the smallest fraction of profit, failing the others, may be compelled to pay the whole debts. On this account, every partner on leaving a company should be careful to advertise in the Gazette

paying wages of servants, and
when due. When trading with
capital, business is done upon a s
he proceed beyond these, in any r
said to be *over-trading*, and is exp
ruin or very serious embarrassm
the amount of available capital, is
vailing error, and causes innum
With a comparatively small capit
carry on a large business, by recei
after making his outlays. By th
rapid turning over of money, an
the various transactions speedily
revenue. For example, if a tra
capital twelve times in the year, a
money for what he sells, he can af
a twelve times less profit than if h
same capital only once in a year.
consideration of credit.

Credit.—Credit in business is of
and is founded on a confidence i
person credited, or the borrower.
to buy an article from a trades
money to pay for it, and requires
giving either a special or implie
value at a future time. This is g
is clear that the seller is a lender
such cases, the seller must be rem
his loan. He cannot afford to sell
favourable terms as for ready m
were to receive the money when
could lay it out to some advantag
other portions of his capital. By ta
deprives the seller of the opport
profit, and accordingly he must p
the article, the price being increa
the length of credit. It very or
the seller himself has purchased
but this only serves to increase its
and does not prevent the last sell
the credit which he gives and the
ment which he runs. Credit for a
essential in all great transactions; l
fair and reasonable limits, it acts
trade, by inducing heedless specul
undue increase in the number of d

sonsists chiefly of desks for the clerks, and the
of the establishment, which are secured at night
iron or fire-proof safe. Almost every different
ss requires a different set of books, but the
of keeping them is generally the same. The usual
books comprises a day-book, in which sales or
ases on credit are individually entered as they
; a ledger, into which all these entries are en-
d in separate accounts; a journal or note-book,
tering miscellaneous transactions; a cash-book, in
every payment or receipt of money is regularly
d; a letter-book, into which all letters are copied
they are sent off; and a bill-book, for the entering
payable and receivable. In large concerns there
rious other books, as foreign-ledger, town-ledger,
y-ledger, &c. The art of book-keeping is simple.
quires only a competent knowledge of arithmetic,
ill in penmanship, with a little training in the
d of entering and posting accounts. The strictest
and accuracy are desirable. It is an understood
that no book should show a blot or erasure; a
also, should never on any account be torn out,
ver blotch or error it contains. The reason for
rupulous care is, that a merchant's books should
lear and faithful mirror of his transactions, and
idence of his integrity. In the case of misfor-
n trade, or other circumstance, the books may be
ted to a rigid judicial examination, and the ap-
hce of an erasure or torn-out leaf may lead to con-
es of an unpleasant nature and consequences.
an important error occurs in book-keeping, it is
to let it remain and write *error* below it, than to
a large erasure or to cut out the leaf.
m the books kept by a merchant, a condensed
of his affairs ought to be annually made up. This
ent contains an *inventory* or list of goods, money
owing to the merchant, or other available pro-
; also a contra list of all debts and other obliga-
due by the merchant. Both being balanced, the
e, whether for or against the merchant, is at once
vable. Every man in trade, for at least his own
action and government, should make up a *balance*
of this nature annually.
of Parcels.—An account or list of items of goods,
to their purchaser by the seller, or delivered
with the goods at the purchaser's house. Should
rchaser dispute the delivery of the goods, it is
sary to produce proof of the fact; when delivered
riers, a receipt is usually given by subscribing a
l-book.
oice.—A bill or account of goods, which is for-
d separately, announcing the date of their dispatch
he particular conveyance by which they are sent.
seller fail to forward an invoice by post, and the
be lost at sea while on their way, the purchaser
answerable, for he is not supposed to know how
en the goods were sent, and therefore could not
against their loss. The careful sending of in-
forms an important duty of a merchant's clerk.
riers.—Persons who undertake to convey goods
one place to another, whether by land or water,
arriers; and the carrying trade, as it is called,
now a large and varied department of human
try. "Carriers are bound to receive and carry
ods of all persons, for a reasonable hire or re-
; to take proper care of them in their passage;
liver them safely, and in the same condition as
were received (excepting only such losses as may
from *the act of God or the king's enemies*): or in
lt thereof, to make compensation to the owner for
ver loss or damage the goods may have received
in their custody, that might have been prevented.
a carrier is liable, though he be robbed of the
, or they be taken from him by irresistible force.
e same principle, a carrier has been held account-
for goods accidentally consumed by fire while in
arehouse."* Violent storms, tempests, and light-

* M'Culloch.

ning, are considered to be "the act of God," or such as no human precaution could have averted, and no fraudulent intention could have produced.

Bill of Lading.—A formal acknowledgment or receipt given by sailing masters for goods put on board their vessels, including a promise to deliver them safely as marked and addressed to their designed destination, always, however, excepting loss or injury by the act of God, the king's enemies, fire, or the dangers or accidents of the sea. This bill of lading is usually a printed form, filled up with writing, and concludes with the quaint and pious wish—"And so God send the good ship to her destined port in safety: Amen." A set of two bills of lading is furnished to the shipper of the goods, one of which he retains for his own satisfaction, and the other is forwarded by post, like an invoice, to the person to whom the goods are sent. When the ship arrives at its destined port, this document can be employed to cause the captain of the vessel to deliver the goods therein mentioned.

Debenture.—This is the name of a formal certificate employed to recover a certain amount of drawback of duties from the customhouse on goods exported. The exporter draws up and signs the certificate, the signature being attested by a magistrate; and being forwarded to the customhouse, it is compared with the return of the officer who has seen the goods packed and sealed. After a certain period has elapsed, the duties are paid to the exporter. The meaning of this transaction is, that on exporting goods, any king's duty that may have been imposed upon them is paid back to the exporter, so as to relieve the foreign or colonial receiver from the burden of using taxed commodities. It also acts as a bounty on exportation.

Customs—Excise.—The duties or taxes imposed upon goods entering or going out of the country are called *customs*, and those imposed upon goods at the period of their manufacture in the country, are called *excise duties*. Both form a prime element in the national revenue, and are levied by boards of customs and excise, each having an extensive ramification of subordinate functionaries, for the imposition and collection of the duties. A customhouse is established at every principal port. Nearly all customs and excise duties must be paid at the time the goods are passed through the hands of the officers of either department, and fall in the first instance on the merchant and manufacturer. They, however, enhance the price of the commodities, and are therefore ultimately paid by the consumer. For the accommodation of merchants, the customhouses in the different chief ports possess large warehouses or depôts for goods, called *bonded warehouses*. Goods subject to duty, may, on importation, be consigned to these depôts, where they are allowed to remain till the merchant finds it convenient to remove them and pay the accustomed duties. Until removed, therefore, the commodities in bond can hardly be said to be imported into the country, being in the condition of goods still lying in a foreign port.

Lloyd's.—Lloyd is not the designation of any individual or of any company; it is a name used in reference to a set of subscription rooms, or coffee-house, in London. Formerly, the place of resort was in the Royal Exchange, but since the destruction of that building by fire, the place of meeting is in the neighbourhood of that locality. One of the rooms at Lloyd's is devoted to subscribers who follow the profession of marine insurers, technically called *underwriters*, from their writing under, or subscribing to, certain obligations in deeds presented for their acceptance. When a person wishes to insure a ship, or goods in a ship, against damage or loss at sea, he offers the risk to these underwriters, and they are at liberty to accept it for a specified premium. The policy or deed expressive of the insurance is usually signed by more than one underwriter, so as to divide the risk. Lloyd's is not only the point in the metropolis for all sea insurance business, but is the place to which every species of intelligence respecting shipping is forwarded from all parts of the world; and this information is published daily in one of the rooms, for the inspection of merchants and shippers of goods all over the kingdom. The intelligence is for the most part sent by their agents, one part of whose duty consists in investigating the cause of damage to vessels, and taking charge of wrecked property for behoof of the underwriters, whoever they may be. The lists made up and published at Lloyd's, furnish authentic information for the use of merchants and shippers of goods all over the kingdom.

Vendue.—This is a colonial phrase, used to denote a *public auction*. To sell goods at vendue is to sell them by auction. The place of sale is also called "the Vendue."

Dutch Auction.—In common auction, the highest bidder by competition is the purchaser; but according to the process of sale called Dutch auction, which is a different mode of determining the successful bidder. According to this plan, the article is put up at a certain nominal price, which is gradually lowered until the first who speaks and offers the sum mentioned by the auctioneer is at once knocked down as the purchaser. This is the fairest mode of auctioneering; it admits of competition, and the article brings its exact value, or that which it is worth in the estimation of those present.

Official and declared Value.—All goods exported are entered in the customhouse books as of so much *official value*. This value is quite illusive as regards the real value of the articles. The official value is fixed according to an estimate of the date 1694, without reference to the alteration of prices since that time. Knowing the fixed official price, we may be able to estimate the exact quantities, but this is a matter which few private individuals understand. The declared value is the price announced by the exporters of the goods, and amounts to nothing more than a rough estimate, it being necessary only to declare the value as something near the reality, for purposes of taxation in making up reports of the export trade.

Insolvency, Bankruptcy.—When a person in circumstances to pay his debts in full, he is insolvent, which is nearly equivalent to being bankrupt: a bankrupt, however, is more commonly applied to one who is legally announced or gazetted as being insolvent. The term bankrupt is derived from *bonus* good, and *ruptus* broken, in allusion to the benches or counters used by the money-dealers in Italy, which were broken in case of their failure to pay their debts. The law prescribes a certain form of procedure in the case of commercial insolvency, which has the effect of delivering investigating the cause of the misfortune, and releasing the bankrupt from all obligations, on yielding up his entire property. Only persons in trade are entitled to the benefit of this bankrupt law, all others being excluded; so that, in the event of their insolvency, they must submit to the common laws respecting debt, which are in some respects very rigorous. A bankrupt who has received a discharge or certificate from a competent authority, being released from all former claims, may again enter business for his own behoof without any fear of molestation; but a debtor who has merely taken the benefit of the Insolvent Act, or the land, or process of *Cessio Bonorum* in Scotland, is immediately relieved from prison and left at liberty to pursue any line of industry, the property he may accumulate is at all times liable to seizure by his former creditors.

A commission of bankruptcy in Scotland is called a *sequestration*, meaning that the property of the bankrupt is officially sequestered, or taken possession of, for behoof of creditors.

BRITISH COMMERCE.

British commerce is in two distinct branches, that which takes place within the country, or *home trade*, and *import*, or that which pertains to foreign nations. The inland trade conducted for home consumption is at least ten times the amount of the foreign trade. It is calculated that commodities are produced

ually to the value of *five hundred mil-*
fully nine-tenths of which are sold from
ır accumulate as capital, while the re-
ırly one-tenth, is exported. All this is
sale of imported foreign productions.
y small as is the foreign trade of the
, it employs a larger commercial marine
ıy other nation. In 1836, the united
s possessions in Europe owned 20,388
ırden of 2,349,749 tons; the colonies at
owned 5432 ships, with 442,897 tons;
ıips, with 2,792,646 tons. All this is
ps of foreign proprietorship carrying on
ınited kingdom.
ent period, the manufactures and com-
and have wonderfully increased. The
res of Carron, and the cotton and silk
ıf Glasgow and Paisley, are known all
The sailcloth and coarse linen manu-
ndee, now one of the most flourishing
ɔire, have greatly tended to the advance-
ottish export trade. The annual value
nanufactures was recently calculated to
),000. The tonnage of vessels on the
as great as that of all Ireland, the ton-
in 1828, only amounted to 97,379 tons
ı of the total tonnage of Scotland; the
:rdeen is as great as that of Dublin and
› principal Irish ports, put together. The
wever, is increasing, chiefly by means of
›n.
ıportant commercial cities of England,
ı, are Liverpool, Bristol, and Hull; the
t manufacturing towns are Manchester,
Leeds, Nottingham, Halifax, Rochdale,
nd, the principal commercial places are
ıock, Leith, Dundee, and Aberdeen. The
f Glasgow and Greenock extends to the
he United States, the British American
il, and the whole continent of Europe.
ade of Leith, Dundee, and Aberdeen,
West Indies, America, the Mediterra-
Baltic. The greatest commercial cities
Dublin, Cork, Wexford, Waterford, and
ly two-thirds of the traffic of Great Bri-
on in London, and about one-sixth of
ping of the empire belongs to that port.
wise the centre point for the negotiation
: commercial and pecuniary transactions
:ingdom.
xport and import trade of the united
been steadily increasing for a number
›portion as restrictions have become less
luties have been remitted, and as popu-
ınced. Not counting odd thousands, the
ents a view of this increase:—In 1800,
ıe of the exports from Great Britain, of
ıctures and Irish produce, was twenty-
in 1810, thirty millions; in 1821, thirty-
; in 1828, fifty-one millions; and in 1830,
ns. This is not estimating the export of
lonial produce, or exports from Ireland.
imports into Great Britain rose in a
r, from twenty-four millions in 1800, to
ons in 1830.
eriod, the foreign trade of the country
some changes. A return to parliament
arch 1840, shows the state of our foreign
interests in the years 1838 and 1839.
year, the declared value of British and
and manufactures exported amounted to
ınd in 1839 to £45,281,254. There has
ase in the exportation of cotton, linen,
lk goods, and woollen yarn; also in hard-
ery, iron and steel, and other metals, and
and a falling off in coal, salt, cotton yarn,
ol, and refined sugars. The following is
the annual accounts, showing the official
exported in 1838 and 1839.

	1838.	1839.
Coals and culm, - -	£485,950	£543,156
Cotton manufactures, -	16,715,857	17,694,303
Cotton yarn, - - -	7,431,869	6,857,826
Earthenware, - - -	651,344	768,496
Glass, - - - - -	377,283	371,270
Hardwares, and cutlery, -	1,498,327	1,819,000
Linen manufactures, -	2,730,270	3,422,488
Linen yarn, - - -	836,163	814,607
Metals, viz. iron and steel,	2,635,692	2,702,738
copper and brass,	1,221,732	1,293,977
lead, - -	154,126	195,640
tin, in bars, &c.,	101,846	112,620
tin plates, -	436,577	345,442
Salt, - - - - - -	223,456	219,069
Silk manufactures, - -	777,280	865,768
Sugar, refined, - - -	553,247	213,738
Wool, sheep or lambs', -	434,006	361,829
Woollen yarn, - - -	384,535	401,188
Woollen manufactures, -	5,795,069	6,278,099
Total,	£43,344,631	£45,281,254

The gross amount of customs' duties inwards in 1838 was £22,966,214, and in 1839, £23,278,089. The gross amount of excise duties for the year ending October 1838 was £11,827,788, and for the year ending October 1839, it was £12,152,171; thus the customs and excise duties produce annually upwards of *thirty-four millions of pounds* to the national revenue.

MONEY.

Origin and Nature of Money.—In a rude state of society, exchanges are made by bartering one article for another, according to some kind of understood value. "But when the division of labour first began to take place (says Smith), this power of exchanging must frequently have been very much clogged and embarrassed in its operations. One man, we shall suppose, has more of a certain commodity than he himself has occasion for, while another has less. The former, consequently, would be glad to dispose of, and the latter to purchase, a part of this superfluity. But, if this latter should chance to have nothing that the former stands in need of, no exchange can be made between them. The butcher has more meat in his shop than he himself can consume, and the brewer and the baker would each of them be willing to purchase a part of it; but they have nothing to offer in exchange, except the different productions of their respective trades, and the butcher is already provided with all the bread and beer which he has immediate occasion for. No exchange can, in this case, be made between them. He cannot be their merchant, nor they his customers; and they are all of them thus mutually less serviceable to one another. In order to avoid the inconveniency of such situations, every prudent man, in every period of society, after the first establishment of the division of labour, must naturally have endeavoured to manage his affairs in such a manner as to have at all times by him, besides the peculiar produce of his own industry, a certain quantity of some one commodity or other, such as he imagined few people would be likely to refuse in exchange for the produce of their industry.

Many different commodities, it is probable, were successively both thought of and employed for this purpose. In the rude ages of society, cattle are said to have been the common instrument of commerce; and though they must have been a most inconvenient one, yet in old times we find things were frequently valued according to the number of cattle which had been given in exchange for them. The armour of Diomede, says Homer, cost only nine oxen; but that of Glaucus cost a hundred oxen. Salt is said to be the common instrument of commerce and exchanges in Abyssinia; a species of shells in some parts of the coast of India;

dried cod at Newfoundland; tobacco in Virginia; sugar in some of our West India colonies; hides or dressed leather in some other countries; and there is at this day a village in Scotland where it is not uncommon, I am told, for a workman to carry nails, instead of money, to the baker's shop or the ale-house.

In all countries, however, men seem at last to have been determined by irresistible reasons to give the preference, for this employment, to metals above every other commodity. Metals can not only be kept with as little loss as any other commodity, scarce any thing being less perishable than they are, but they can likewise, without any loss, be divided into any number of parts, as by fusion those parts can easily be re-united again; a quality which no other equally durable commodities possess, and which, more than any other quality, renders them fit to be the instruments of commerce and circulation. The man who wanted to buy salt, for example, and had nothing but cattle to give in exchange for it, must have been obliged to buy salt to the value of a whole ox or a whole sheep at a time. He could seldom buy less than this, because what he was to give for it could seldom be divided without loss; and if he had a mind to buy more, he must, for the same reasons, have been obliged to buy double or triple the quantity, the value, to wit, of two or three oxen, or of two or three sheep. If, on the contrary, instead of sheep or oxen, he had metals to give in exchange for it, he could easily proportion the quantity of the metal to the precise quantity of the commodity which he had immediate occasion for.

Different metals have been made use of by different nations for this purpose. Iron was the common instrument of commerce among the ancient Spartans; copper among the ancient Romans; and gold and silver among all rich and commercial nations.

Those metals seem originally to have been made use of for this purpose in rude bars, without any stamp or coinage. Thus we are told by Pliny, upon the authority of Timæus, an ancient historian, that, till the time of Servius Tullius, the Romans had no coined money, but made use of unstamped bars of copper to purchase whatever they had occasion for. These rude bars, therefore, performed at this time the function of money.

The use of metals in this rude state was attended with two very considerable inconveniences; first, with the trouble of weighing, and secondly, with that of assaying them. In the precious metals, where a small difference in the quantity makes a great difference in the value, even the business of weighing, with proper exactness, requires at least very accurate weights and scales. The weighing of gold, in particular, is an operation of some nicety. In the coarser metals, indeed, where a small error would be of little consequence, less accuracy would, no doubt, be necessary. Yet we should find it excessively troublesome, if, every time a poor man had occasion either to buy or sell a farthing's worth of goods, he was obliged to weigh the farthing. The operation of assaying is still more difficult, still more tedious, and, unless a part of the metal is fairly melted in the crucible, with proper dissolvents, any conclusion that can be drawn from it is extremely uncertain. Before the institution of coined money, however, unless they went through this tedious and difficult operation, people must always have been liable to the grossest frauds and impositions; and, instead of a pound weight of pure silver, or pure copper, might receive in exchange for their goods an adulterated composition of the coarsest and cheapest materials, which had, however, in their outward appearance, been made to resemble those metals. To prevent such abuses, to facilitate exchanges, and thereby to encourage all sorts of industry and commerce, it has been found necessary, in all countries that have made any considerable advances toward improvement, to affix a public stamp upon certain quantities of such particular metals as were in those countries commonly made use of to purchase goods. Hence the origin of *coined money*, and of those public offices called mints; institutions exactly of the same nature with those of the aulnagers and stampmasters of woollen c cloth. All of them are equally meant to a by means of a public stamp, the quantity and goodness of those different commodities when to market."*

It will be understood from these explanati money is only an article which can be conveni in exchanging. In itself, or as relates to its trinsic qualities, it is a thing but of small valu and silver, or the precious metals, of which usually made, are chiefly brought from the South America, and are commercially valued a to the cost of their production and their co demand, as is the case with every other object If an over-abundance of any of these metals obtained, and the demand be not increased, the immediately lowered; and if the supply is obta difficulty, while the demand remains steady creased, the value is heightened. It cannot strongly impressed on the mind of the reader, tha is but a metallic representative of something w been given for it. To a misunderstanding r this apparently very simple circumstance, most misery may be attributed. It has too often feeling of communities, that if they possess they possessed riches, and not a mere article tating commerce—an article which, from its na respect, is itself a commodity. The most start tration of this fallacy is to be found in the h Spain. Before the working of the gold mine American possessions, the Spaniards were a prosperous commercial people; but when th to find gold, they thought they had got at th that for which they formerly laboured, and th poor industrious man who has unexpectedly s to an estate, they need now work no longer. vent their riches from disappearing, the law p the exportation of the precious metals, and th tually shut the door against the only way in wh could be made sources of wealth—exportati article of commerce. In that view, and in th was there any advantage in the possession of g even had it been employed in the most adva manner, it would not have been so profitable other means of employing capital and labour already remarked, the peculiarity which make useful as a measure of value, is, that the la pended in producing it bears so constant a ra quantity realised, that but small profits are m its production.

The manner in which the Spaniards be quainted with the treasures of South Americ to nourish the hallucination. They found a able quantity of gold in the possession of th which they speedily seized. They found also m in the streams. Thus, by an accidental circu such as that of finding a hidden treasure, they possessed of money without working for it. not reflect that, if this lasted, gold would ce the representative of value which it was, and of no further service in commerce than as an e beautiful material for manufactures, which w tuate in value with the tide of fashion. Wh could procure the mineral only by the result labour, they still had the same preposterous fe they were possessed, not of the means of maki but of wealth itself, and dearly did they pay th While starvation desolated the land, and th grandees could not command so much of the of ordinary commercial industry as a glass every wretched dwelling glittered with mou plate.

Gold, it is necessary to repeat, is simply a co —a commodity which we import: and if we ca it profitably, why not do so? If the country tion will take nothing from us but gold, then i worth our while to buy gold for the purpose o

* Smith's Wealth of Nations, book i. chap. 4.

s an issue of copper money to the value of
, 4s.
ined money of Great Britain is the most ele-
ecuted, and among the purest in the world.
ter part of the continental coinage is poorly
and basely alloyed. In Holland, and most of
nan states, the coins legally current as silver
e apparently one-third brass, and resemble the
d shillings and sixpences of a former period
nd. In France and Belgium, the new gold
r coins are handsome, and so likewise are the
l and silver pieces of Prussia. The coins and
ecuted by direction of Napoleon in France are
style of art.
st the current and standard coinage is fre-
ignified by the term *sterling*, as "one pound
"&c. With respect to the origin of the word
there are three opinions. The first is, that it
d from Stirling Castle, and that Edward I.
enetrated so far into Scotland, caused a coin
ck there, which he called Sterling. The second
erives it from the figure of a bird called star-
h appears about the cross in the ancient arms
nd. The third most probably assigns its true
y deducing it from Esterling; for in the time
r III. it is called *Moneta Esterlingorum*, the
the Esterlings, or people of the East, who
her to refine the silver of which it was made,
o it was valued more than any other coin, on
of the purity of its substance. The denomi-
the weights and their parts is of the Saxon
ling tongue, as pound, shilling, penny, and
which are so called in their language to the
lay. The term sterling is now disused in Eng-
all ordinary transactions, but is still used in
to distinguish sums from the ancient money of
try, as referred to in old deeds and notices of
y transactions. The old Scots money, previous
nion of 1707, was in pounds, shillings, and
ut these were only a twelfth of the value of
money of the same denomination; thus, a pound
s only twenty pence sterling. The word ster-
lso in use in the colonies, to distinguish the
ndard of Great Britain from the currency
these places.
llowing is a short explanation of the origin of
ipal terms used in reference to coined money.
d *money* is from the Temple of Juno *Moneta*,
money was first coined by the ancients. *Pe-*
s from *pecus*, a flock—flocks and herds of ani-
ng originally equivalent to money, or things
ing wealth. *Cash*, in commerce, signifies ready
r actual coin paid on the instant, and is from
ich word *caisse*, a coffer or chest in which
kept. *Pound* never was a coin; the term was
employed to signify a pound weight of silver,
wards it was applied to mean twenty shillings
or by counting. *Guinea* took its name from
t of Guinea in Africa, whence the gold for it
nally brought; at first, the piece was current
shillings, afterwards it was equal to 21s. 6d.,
y settled at 21s. In the present day the guinea
ined, and the term only remains to indicate
orary fees and gifts are still usually reckoned
s, though paid in other money. *Shilling* and
e both from Saxon words; the penny was first
silver. *Groat* was a name given to silver
ual to four pennies in value, coined by Edward
word groats is a corruption of *grosses* or great
d was given to distinguish this larger coinage
nies or small coins. *Farthing* is a corruption
ing, or the fourth part of a penny.
rency of coined gold is the most secure and
t, and the pieces are received for their proper
all countries. But notwithstanding these
es, a metallic currency alone is quite unsuit-
ighly commercial communities. There is no
importation of the precious metals, as the wealth
e, to supply material for a purely metallic

[illegible] a certain sum which is specified upon it. Whether passing by the name of a bank-note, a promissory-note, or bill of exchange, the principle on which it is issued is the same—an express obligation on the issuer to pay the specified sum in coined money on demand, or at a certain date which is mentioned. The notes of this kind issued by a bank pass from hand to hand, any holder having it in his power at any time to demand fulfilment of the obligation from the bank; but in the case of a bill of exchange, which is a promise by a private party, it is presentable for payment only at a specified period.

Bank-notes and bills together constitute the paper currency of the country, and are of prodigious use in carrying on commercial transactions. It is calculated that while the metallic currency seldom exceeds three millions, the paper currency, or amount of negotiable paper in circulation, is perhaps two hundred millions: of bank-notes alone, the circulation in the united kingdom may be reckoned to be sixty millions.

Bills of Exchange were first used for the purpose of settling pecuniary transactions between individuals at a distance from each other, and were therefore convenient expedients to avoid the risk of sending actual money to a creditor. This may be explained as follows:—If A, a merchant in London, have a debtor B and a creditor C, both in Paris, instead of sending money to C, and getting money sent to him by B, he may give C an order on B to pay the debt over at once to him. This is a bill of exchange in its simplest form. Suppose, however, that A has a creditor in Paris, but no debtor, while his neighbour E has a debtor, but no creditor: A may pay the money to E which the French debtor owes him, and obtain from him an order on his debtor to pay A's French creditor. This order he will be said to purchase. It will be an accommodation to him or to the other party, according to circumstances. In the complicated arrangements of modern commerce, the individual debtors and creditors are lost sight of. If a person has a sum to transmit to another country by such an order, the rate at which he will obtain it will depend on the pecuniary relations of the two places taken in the main. If there is more money payable at the moment by people in London to people in Paris, than there is payable by those in Paris to those in Lon-

[illegible] land.

The multifarious transactions t merchants in Britain and Americ process of payment by the interv change, many thousands of pou daily in their accounts with each of any metallic money, except a fe sums.

The following is a common form exchange:—

£100. London,

Three months after date, p the sum of one hundred pounds, v To Mr Thomas Sitles, Merchant, Cripplegate, London.

The bill being drawn in this form it, by writing his name either belo or across the face of the writing. called the *drawer*, now endorses th name on the back of it, and thus th *tiable paper*. It may be paid aw and he endorsing it below Noke away to a fourth; and he endorsin ner, may pay it away to a fifth; bill may pass from hand to han liquidating a debt of £100, till th the original acceptor arrives, whe by the last holder. Instead of ru bill may at any period be *discount* banker. The discounting of a b the money for it, less a certain su rest is a charge for the loan of mo reckoned by *per cent.* Thus five per annum, signifies a charge of one year, which is equal to a sh This is legally the highest interest When, therefore, a bill for £100 fourth part of a year) is discounte rest, a charge equal to the fourth by the discounter, and this is his the money for that period. Int on any sum may be easily calcula metic; but merchants and banke [illegible]

discount, the debtor is left unmolested till
y of payment. 3. A bill is a convenient repre-
money, which may be sent from place to
letter, and if accidentally lost, its payment
pped and a new bill forwarded to its destina-

BANKS.

Banks.—The term *bank*, in reference to
signifies a place of deposit of money, and is
m the Italian word *banco*, a seat or bench,
stodiers and dealers in money in Italy having
who sat on benches in the market-places of
al towns. It is worthy of remark, that in
of almost all modern civilised nations, the
ney-dealers were Jews, and in the present
s of that nation are the chief commercial
in barbarous countries. Their acute intel-
tient industry, and disregard of local attach-
e in all ages fitted the Jewish people for this
fe.

e reign of Charles I., Jews and goldsmiths,
aluable property had been assigned for safe
gan to exercise the profession of bankers in
but till a much later period there were seve-
bankers in London who still kept goldsmiths'

ontinent of Europe regular banking com-
ch earlier than in this country. The Bank
was established as early as 1171, the Bank of
n was begun in 1609, and that of Hamburgh
Regular banking establishments were formed
and Scotland shortly after the Revolution.
of England began in 1694, and the Bank of
1695, since which period banks have been
n all the principal towns in the united king-

of Banking.—A bank is a commercial insti-
blished and conducted by private individuals
own behoof, or by joint companies. Like a
counting-house, it consists of various offi-
anager, cashier, clerks, &c., including tellers,
for receiving and paying out the money.
usually reckoned to be of two kinds—banks
and banks of *issue*. By deposit it is meant
nk takes charge of deposits of cash, which it
restore on demand. Some banks of this
w interest on the sums received, and others
; all, however, of necessity, make use of the
deposited, by lending it out at a certain rate
, and thus compensate themselves for their
The loans are most commonly in the form of
f bills, and occasionally advances on heritable
r other securities. Banks of issue transact
linary business of banks of deposit, and in
ue notes of their own instead of actual cash
s of others. Almost all banks in this country
both of deposit and issue; they at least issue
r as the law allows them, which is to the ex-
s of £5 in value and upwards. The only banks
to issue below £5 are those in Scotland, for
culiar law exists.

h banks are thus at liberty to issue notes to
, it is not to be supposed that they do so
certain degree of restraint. The expense of
ring notes, notwithstanding that each re-
stamp, is a comparatively small check; the
aint on over-issuing consists in the obligation
sum which the note expresses, on demand.
erefore, a banker discounts a bill for £100,
out one hundred notes of one pound each, he
the risk of having these notes returned upon
a demand made for them in cash within the
f a day or two thereafter. This risk is in-
the practice among bankers of never issuing
of others. They are cautious enough to grant

demands for cash. To accommodate the amount of this capital to the probable necessities of the case, is the point in banking for which the greatest skill is required, because if much capital is kept lying useless in the coffers of the bank, there is a loss of interest which may be ruinous, whereas, if too little is retained, a sudden run might utterly destroy the credit of the concern. When banking is managed with prudence, there is a certain amount of money kept at interest in the funds or government securities, upon which, if need be, an order is given. Thus a safety fund is established, whereon to fall back in case of emergency. A share of the subscribed and paid-in capital of the shareholders of the bank forms this safety fund; and it may be taken as a general rule, that where a bank is provided with no such security, but issues notes on the faith of the fund it may chance to have in hand, then that bank is trading on a principle alike dangerous to itself and the public. A banker who unites enterprise with prudence takes every available means to extend the circulation of his notes in as minute and distant channels as possible; for as long as a note is out, an interest is being received for the capital which it represents. In other words, when a pound note is out, it represents a sovereign which has been deposited or given for it, and which sovereign is employed in a fund in some manner of way at interest, for the advantage of the banker.

On considering the various operations connected with banking, it will be found, that, independently of the impulse and elasticity created by the facilities given to commerce, the direct and primary effect of them is the employment of waste money. A bank gathers, as it were, the money of a district into its hands, and, allowing each man to use as much of his own share as he requires at the time, keeps the remainder likewise in employment, which it would not have been had it remained in its owner's hands.

The rapidity with which all kinds of payments are made, and therefore the frequency with which money can be used, through the instrumentality of banks, form their most striking feature. In a bank office the same sum of money will have been made the means of paying its amount a dozen of times over in a day without being once uplifted. A, who is due B L.100, gives a cheque for the sum, which will make it stand in his name instead of A's. B gives a similar cheque to C; C to D;

received on other banking ac
common resort, called the clearin
from each bank attends and ex
understood that the accounts bal
clearing-house amount to eight
settlement being effected by th
about L.250,000 in notes and ca

Bank of England.—This ins
largest and most important ban
the world, was projected by Willi
man, and received its charter of
1694. It was constituted as a j
with a capital of L.1,200,000, v
interest to the government of
the time in a state of embarrass
set, therefore, the Bank of Engl
of government; and in a lesser
has enjoyed this character throu
subsequent history. Accordin
management is committed to a
governor, and twenty-four direc
holders who have held L.500 of
previous to the election. A dire
L.2000, a deputy-governor L.30
of the capital stock. At first th
was for only eleven years; but
great services of the institutio
charter has been at various times
stock of L.1,200,000 has been a
times, till, in 1816, it reached L.
the stockholders drew dividends.
arise from traffic in bullion, dis
rest on mortgages, allowance fo
debt, &c.

The net profit of the bank in
terest was paid on the capital
The interest paid to stockholde
five to ten per cent. per annum,
been about eight per cent. Th
different times, made dividend
bonuses. A bonus is a sum o
the division of a fund, which ha
cumulate or remain for use, in
The emergency being past, the
bonuses of the Bank of Englan
to five per cent.

Bank of England trades not only on its paid-up l, but on the capital confided to it in the form of ts, and usually called its liabilities. This is per- legitimate, and consistent with the true principles nking, it being only necessary to take care that titution always leaves itself a sufficient fund from to satisfy all demands. The issue of notes by nk is understood to be somewhat in accordance ne amount of its deposits; but this is necessarily lent on various contingencies in public affairs. nding feature in the character of the institution circumstance of its acting as the banking-house government. All the money drawn in the form s or otherwise for the public service is consigned bank, while all drafts for the public service are e made from it. In carrying on this branch of ness, the bank allows the government to over- s account, that is, to take a loan of cash to a amount. The money so lent was some time wards of L.14,000,000, which parliament made sion to reduce and finally pay off. The impor- rvices rendered to the government, have in past secured to the bank most valuable privileges, ting almost to a monopoly of the business in

In 1797, when the bank found itself unable a run made upon it for gold for its notes, the ment of that day summarily protected it from ptcy by issuing an order that Bank of England hould be considered a legal tender; consequently, ders of notes at the time were, by force of law, l their value in cash. This extraordinary state irs, with various modifications, lasted till 1821, sh payments were resumed. Meanwhile, the f the bank, from not being representatives of were considerably depreciated in nominal value; at was the depreciation at one time, that four notes would have been given in exchange for guineas. It has been frequently represented as us hardship, that debts contracted during this nce of a depreciated currency, have had to be a currency of full value; for by this means the x receives perhaps a third more money than the value of the original sum owing.

-Stock Banks in England.—A parliamentary was published early in 1840, relative to these shments, from which it appeared that the number t-stocks in England, at 1st January 1840, was considerable proportion of which had been insti- within the preceding ten years.

number of partners in these banks varies from 1200, and may average about 300. There are dozen with less than fifty partners, the smallest r being seven. Fifty-eight of the banks have es, and fifty have none. The branches, includ- e parent bank, are from two to sixty-seven in r. There are eight banks which have more than branches. The whole number of parent banks anches is 658.

re are besides about 550 *private banks* in Eng- that is, banks having not more than six partners. g these to the joint-stock banks and their branches, hole number of banking establishments will be 1200.

e issues of the joint-stock banks, when contrasted he magnitude of the establishments, seem to us ex- gly small. According to the last return (August 2, , the notes in circulation of all the joint-stock s were in value L.4,665,110. This, divided by umber of banks (108), gives an average circu- of only L.43,200 for each; or, if we include the hes, the average for each office or establishment y L.7000. Supposing the money to be employed counting at five per cent., the annual profit on 55,000 would be only L.230,000, or no more than to each establishment. It is evident that their s must be chiefly derived from deposits, which an employ at five per cent., while, we believe, give only two.

e issues of the *private* banks, by the same return, were L.7,610,700, which gives an average of about L.14,000 for each establishment. It appears that the joint-stock banks, so far from superseding the private banks, have had but a very slight effect in narrowing their issues.

The chief advantage conferred on the Bank of England, and constituting its charter of monopoly, is the privilege of being the only bank in London, or within sixty-five miles of it, having more than six partners, which can issue notes payable to the bearer on demand. The bank has also the privilege of its notes being a legal tender by other banks for any sum above L.5, so long as it pays its notes in cash on demand. This provision is a security to all other banks against the effects of sudden runs upon them for gold. It is ordained by act of parliament, that "upon one year's notice, given six months after the expiry of ten years from the 1st of August 1834, and upon repayment by parliament of all sums that may be due from the public to the bank at the time of the expiration of such notice, the exclusive privileges of banking granted by this act shall cease and determine at the expiration of such year's notice." Hence, in 1844–5, there will necessarily be a renewal or modification of the peculiar privileges of the Bank of England.

Stocks—Stock Exchange.—There are various kinds of stocks. Shares in a joint-stock company are called stock, and so are shares of debts due by government. It is the last-mentioned stock, which is variously termed *public securities*, or the *funds*, that requires to be explained, and in doing so we take the liberty of using the definition of a popular writer.*

"In every war in which this country has been engaged since the Revolution, the amount of the annual taxes has been found inadequate to defray the expenses of government. To supply the deficiency, our rulers have generally had recourse to loans—that is to say, they have borrowed money from such individuals as were able and willing to lend it, giving these individuals a security for the payment of a certain annual interest. To explain the nature of this transaction, I shall take a very simple case. Suppose, then, that L.100 is the sum which government wishes to borrow, and that an individual offers to lend that sum at an interest of 5 per cent. On paying down the money, the lender receives a bill, bond, or acknowledgment, for the amount; by which acknowledgment he is entitled to draw yearly from the public revenue L.5 of interest, but on the express condition that he is not to demand repayment of the principal, or sum lent, unless government is willing to repay it. The person who thus possesses the bill or acknowledgment is said to be a *holder of* L.100 *of 5 per cent. stock*, and the money lent upon that bill constitutes a part of what is called the *national debt*, because it is in fact borrowed by the nation, and the interest is paid out of the taxes. It is obvious, however, that few persons would be disposed to lend money on the condition of never being allowed to demand repayment, even though they were quite certain of receiving annual interest, and of transmitting the right to that interest to their posterity. To remedy this inconvenience, therefore, the lender who wishes to employ the sum which he lent to government in any other way, though he cannot directly demand repayment, is at liberty to sell his bill to any body who will purchase it, and for any sum that another may be willing to pay for it. In doing so, he merely sells to a second person the right which he himself possessed to the annual interest of L.5, and that second person is of course at liberty to dispose of his right to another in the same way. This transaction, in general, is called a *transfer of stock*; and in the particular case which I have supposed, the one is said to sell, and the other to buy, L.100 of 5 per cent. stock. If 5 per cent. be considered as a fair and equitable interest for money lent, it is obvious that such a bill as I have now been speaking of, or, in other words, that L.100 of 5 per cent. stock, is just worth L.100 sterling. It is possible, however, that

* Blackwood's Magazine: 1818.

is at the rate of something more than 5¼ per cent. For simplicity of illustration, I have supposed that L.100 is the sum borrowed by government, and that of course there is just one bill to be disposed of, or transferred by the lender. If it be supposed, however, as is really the fact, that the loans generally amount to several millions, the necessity which the lenders are under of selling their bills, or, in other words, transferring their stock, will be more apparent. The transaction between government and the lenders is precisely the same in the case of millions as in that of a hundred; and it is unnecessary, therefore, again to illustrate the general principle of that transaction. It is evident, however, that even the most opulent merchants, who are generally the lenders, cannot be supposed to have such a command of money as to be able to advance ten or twelve millions to government at once. When they contract for a loan, therefore—that is, when they agree to lend to government the sum required—they generally pay the money by instalments, or partial payments at certain intervals, say one million a-month, till the whole is advanced. In the mean time, they sell or transfer the bills or securities which they receive from government to those who may have money to lay out at interest, and who of course will be disposed to purchase such bills, so that the sale of the bills of the first instalment may enable them to pay the second. In this way, government securities or bills become articles of commerce, and their price is regulated, like that of any other article, according to the supply and demand.

It is easy to see how the price of stock is liable to fluctuation from accidental circumstances. I shall not attempt to enumerate these: but it may be worth while to point out how it is affected by peace and war, as these two conditions of the country are generally found to have the greatest influence in raising or depressing the value of stock. In the time of war, then, the price of stock is comparatively *low*, because, in such a state of things, it is likely that government will be under the necessity of borrowing; and as every loan produces new bills, the quantity of those to be disposed of, or, in other words, the supply of the market, will be increased. The price, therefore, will fall, for the same reason that

racter, who subsist by a species of g
the finance system of this country h
and extensive field. I allude to those
practice of buying and selling stock
possessing any, and whose transactio
nothing more than wagers about the
a certain day. To explain the nature
by an example: I shall suppose that
vernment bill of L.100, or L.100 of
to be delivered on a certain future d
price is fixed at L.102. If, when the
price of stock shall have fallen to L.
able to purchase the bill in question
in consequence of his bargain, B wo
pay him L.102 for it, so that A wou
however, stock had risen to L.104,
obliged to give only L.102, so that A
but instead of actually buying and s
the bargain is generally implemented
B, or receiving from him, the L.2, o
be the sum of loss or gain. In such a
obviously A's interest that the price
fall, and as obviously B's interest th
between the day of the bargain and
and hence the temptation held out to
reports favourable to their own partie
the buyer, is usually denominated a B
of his desire to *toss up*; and A, or sell
his wish to trample upon or *tread do*
course, does not recognise a transactio
on a principle of gambling; but a sen
what is perhaps nearer the truth, *self-i*
secures the payment of the difference,
refuses to pay his loss is exhibited in th
under the designation of a *lame duck*,
is considered as the sentence of banis
scene of bustle and business."

In the preceding remarks, the loan
have been supposed to be negotiated
five per cent. interest; practically such
The stocks, from a variety of circu
different denominations, some having
one rate of interest or profit, and

of incorporation from the Scots parliament
e original capital was L.1,200,000 Scots, or
:rling. The amount was raised by shares
:xtent, from L.1000 Scots, or L.83, 6s. 8d.
L.20,000 Scots. In 1774, the amount of
:tended to L.200,000 sterling; and now it
and a half sterling. The shares are now
ıg each.
lishment of the Bank of Scotland was of
: to the nation; the landholders borrowing
·inging the country into cultivation, and a
y that means given to various branches of
s. The Bank of Scotland continued to be
k in the country till the year 1727, when
milar establishment was constituted under
the Royal Bank of Scotland. These two
ıts engrossed all the respectable banking
he country till the year 1746, when a new
was formed, and incorporated by royal
h the title of the British Linen Company.
f this association was at first to encourage
nufacture of Scotland, but gradually it fell
rse of common banking business, and now
gh station among these institutions. From
he capital of this bank has been raised to
/here it has long remained stationary. By
gement, it carries on an immense deal of
d possesses as high credit as any bank in

ə allowed to take precedence of others
ıe subsequent part of last, and in the pre-
', either in Edinburgh or in the provinces;
hareholders enjoy the privilege of being
only for their individual stock.
anks, with few exceptions, are joint-stock
and are banks both of deposit and issue.
few private houses, all issue notes of one
ıpwards, which are payable on demand at
hence they are issued. It was at one time
at Scottish bank-notes should not be re-
they were three years old; but such a regu-
ıgated, and they are now sent out as long
in good condition. Almost all the modern
oduced from plates of hardened steel, and
ıliar and intricate devices, that forgery can-
ıpted with success, or remain long unde-

lical returns of their issues are made by
banks. But on turning to the evidence
ə the parliamentary committees of 1826, we
ıal value of the small notes in circulation
y Mr Paul of the Commercial Bank, and
the British Linen Company, at L.1,800,000,
reased by a third at particular seasons, and
is brisk. The committee estimate the paper
l kinds in circulation in 1826 at L.3,309,082.
ear of great speculation, 1825, they estimate
ımount of notes in circulation at L.4,683,000,
t L.3,434,000.
ving is a return of the joint-stock banks
Scotland at 5th January 1839, with the
ır establishment:—
ɔ of Scotland, Edinburgh, 1695; the Royal
ıtland, Edinburgh, 1727; the British Linen
Edinburgh, 1746; the Commercial Bank of
linburgh, 1810; the National Bank of Scot-
urgh, 1825; the Aberdeen Bank, Aberdeen,
Ayr Bank, Ayr, 1825; the Dundee Bank-
y, Dundee, 1825; the Dundee Union Bank,
25; the Dundee New Bank, Dundee, 1825;
w Bank Company, Glasgow, 1825; the
Bank, Greenock, 1825; the Leith Bank,
; the Paisley Bank, Paisley, 1825; the
ing Company, Perth, 1825; the Renfrew-
ng Company, Greenock, 1825; the Paisley
ɛ, Paisley, 1809; the Aberdeen Town and
ık, Aberdeen, 1825; the Arbroath Bank,
825; the Dundee Commercial Bank, Dun-
the Glasgow Union Banking Company,
Glasgow, 1830; the Ayrshire Banking Company, Ayr, 1831; the Western Bank of Scotland, Glasgow, 1832; the Central Bank of Scotland, Perth, 1834; the North of Scotland Banking Company, Aberdeen, 1836; the Clydesdale Banking Company, Glasgow, 1837; the Southern Bank of Scotland, Dumfries, 1837; the Eastern Bank of Scotland, Dundee, 1838; Edinburgh and Leith Bank, Edinburgh, 1838: being 29 in all.

The business done by the Scottish banking-houses is prodigiously increased by the institution of their branches in the provincial and country towns. From those banks already noticed, which are situated in Edinburgh, and from two or three of the chief provincial banks, there were altogether deputed, not long since, about one hundred and forty branches, and this number is undergoing a regular increase. These subsidiary establishments are to be found in every town of any note, from the borders to the most northern point of Scotland. They are conducted by resident wealthy or responsible merchants and others, who give securities for intromissions, and are subjected to a very rigorous supervision by inspectors, who are continually travelling about for this purpose.

The prudent and enterprising manner in which the business of banking is conducted in Scotland, has often been the subject of remark and commendation. Several reasons may be assigned for the remarkable stability of the Scotch banks. Each bank, before gaining credit with its neighbours, must show that it possesses a sufficient paid-up capital, with a reserve fund in London, on which orders for balances may be given. It is also the custom of the banks to exchange the notes of each other once or twice a-week, by which means the notes are sent very speedily back to the issuers, and thus an over-issue on the part of any single establishment is prevented. There can only be an over-issue by all the banks in the country becoming equally reckless, a thing not likely to occur to any serious extent. A third cause of the stability of the institutions, is the liability of shareholders for the debts of the establishment. Excepting in the case of the three old-established banks above specified, all the shareholders in the various banks are liable not only for the amount of their own shares, but for the shares of all the others; and the whole of their property may be seized to make up deficiencies. Although many of the shareholders are certainly not men of opulence, a number are so; and as their fortunes are good for the paper issued, the public runs no risk of injury. To strengthen this liability of shareholders, by the law of Scotland all heritable property, lands and houses, may be seized in satisfaction for their debts. As this is not the case in England, where personal or moveable property can alone be taken by creditors, it would not be possible to establish banks in the south part of the island on the principle of the Scottish banks, till the law touching heritable property be altered.

Other causes, not of a legal nature, conspire to render the system of Scottish banking perfect. By reason of the circumscribed limits of Scotland, and the character of the people, a ramification of intelligence is created and preserved throughout the whole of society, altogether unknown in England, whereby the character, the wealthiness, and the conduct of the partners or directors of each bank, are made fully known to the rest. All seek, and all find, a knowledge of the management of each other. All are mutually on the watch; and symptoms of over-issues or other improprieties are spread with an amazing celerity, and have their immediate effect.

In comparing Scottish banking institutions with those in England, and considering the different manner in which paper money has been guided by the two nations, the uniform security of the former appears almost miraculous. From the first issue of the bank-notes in 1704, till the year 1830, a single panic or general run did not occur in Scotland, although, during at least two-thirds of the intervening period, paper money had been used to the almost total exclusion of a gold cur-

tish banks grant loans of fluctuating amount, called *cash accounts*. By a cash account is signified a process, whereby an individual, on entering into an arrangement with a bank, is entitled to draw out sums as required, to a stipulated amount, and by an implied condition to make deposits at his convenience towards the liquidation of the same.

Cash accounts are said to have originated from the following circumstance:—A shopkeeper in Edinburgh, in the year 1729, found himself at times in the possession of more than a sufficient supply of ready money to carry on his trade, the overplus of which he consigned to the care of the neighbouring bank. But on other occasions, by reason of the length of the credits given to his customers, his money became so scarce, that, after exhausting his bank deposits, he still felt himself in difficulties. Several dilemmas of this kind having occurred, he was prompted to make a proposal of a novel nature to the bank, to the effect that, if it would accommodate him in straits with small loans, he would always shortly afterwards make up such debits, and that the parties should come to a balancing of accounts at periodical intervals. It seems this proposal was acceded to. A cash credit, or liberty to draw to a certain extent, was instituted under securities; and thus originated a system which has been of immense benefit to bankers and traders, and is now followed over the whole of Scotland.

Cash credits are guaranteed by two sufficient securities, or the applicants give infeftment to heritable property in caution of the contingent debt, and when any such debt is liquidated, the deed is cancelled. The expense of expeding a cash credit varies according to the amount of the desired loan. One for L.500 may be stated at about L.15. The deed requires no renewal. At the end of every six, and in some cases twelve months, calculations are made of entries and debits; the interest for and against the bank—the one being a per cent. higher than the other—is added and balanced, and an account being then rendered, the balance, if in favour of the bank, is either paid up, or remains against the debtor at interest to his new account. In these

of savings' banks in England; and
mentioned, the whole of these were
one statute (9 Geo. IV. chap. 92). T
with another passed in 1833, conferri
important privileges on savings' ba
chap. 14), constitutes the existing law
useful establishments: in 1835, the a
to Scotland. Savings' banks establis
the provisions of these acts are entitle
rity Savings' Banks, because the mo
them is paid into the Bank of Engla
government, whereby the nation bec
the amount of deposits—a security n
of all that could be given to depos
rest given by government on the sum
L.3, 16s. 0½d. per cent. per annum, v
the fluctuations in the value of the pul
the term of investment. This rate c
higher than what government could o
money for, it happens that the public
money annually by their generosity.
rest payable to the depositors is L.3, 8
per annum.

Deposits of from *one shilling* to *thirt*
received by these banks; but no indivi
allowed to lodge more than thirty pou
or than L.150 in whole. Charitable a
stitutions may lodge funds to the amou
single year, or L.300 in all; and frien
permitted to deposit the whole of their
may be their amount. Compound int
the sums lodged, the interest being ad
cipal at the end of each year in some b
end of each half-year in others, and int
allowed on the whole. Any depositor
demand, the money lodged by him, if i
to a considerable sum; and even in tha
returned on a few days', or at most two
notice. Practically, payment is alway
mand. The wisest and most effectual
made for ensuring the proper managem
of the banks, so that those who intrust

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HISTORY AND NATURE OF LAWS.

ROMAN LAW, AND THE SYSTEMS DERIVED FROM IT.

...ay be defined as a system of regulations adopted ...al communities for the general advantage, and ...t account binding upon all the individuals con...ng the community. Such regulations being abso...essential to the existence of a social state, we ...fely infer, that no sooner were any portion of ...nd advanced into that state, than law began to ... Its origin, being thus early, is necessarily ob...: we know extremely little of its history in any ...nations of antiquity besides Greece and Rome. ...reecian history, we find more than one well-known ...f laws; but so limited and simple was their ope..., and so little are they adapted to the wants of a ...icated state of society, that they are to be looked ...rather as the municipal regulations for the tem...e government of a small knot of men, than as ...s from which any additional hints are to be ob... to aid modern jurisprudence. It does not appear ...e been in Greece—the source, as it was, of philo..., literature, and art—that useful laws, applicable ...business of life, had their origin. The Phœnicians, ...ose history and institutions we unfortunately know ...le, seem to have been among the first to establish ...ral system of mercantile law, which their exten...mmerce distributed abroad. To Rhodes, which ...arcely be considered a province of Greece, we ...he earliest regulations applicable to shipping. ...w of average, or that by which the loss occasioned ...owing goods overboard to relieve a ship in dis... is laid proportionally on the whole property saved ...st important branch of the commercial code of ...n nations), had its origin in that state, and is still ... the Rhodian law.

...re is the less importance in the inquiry into the ...f early nations, since all of ancient law which con... to have any force in civilised Europe, has come ...through one channel—namely, the Roman law. ...European nations, being, as it were, the remoulded ...s of the Roman empire, have obtained the basis ...r laws from that source. The Roman law is, there...y the common consent of Europe, denominated *The Law*. In Europe, there was but one other system, ...early period, to combine with it. This was *The ...l Law*, or that code of usages which had sprung ...European nations before they received the civil ... It is, after all, only in some countries that the ... law exists: in other cases, the civil law has ...ished a proportionate, and in some a preponderat... influence. In Holland and Germany, the original ... of the principles of the civil law have been pre...d with such zealous care, that the writings of the ...rs of those countries are quoted as authorities on ...s of Rome. In Spain, the system has been grafted ... feudal law, and on some peculiar customs derived from the Moors. In France, previously to the Revolution, the civil and the feudal law were united, as in most other nations of Europe; and in the Code Napoleon, which we shall hereafter have more particularly to notice, there are many regulations from the jurisprudence of Rome allowed to exist, or revived, while many of the feudal customs which were formerly so prominent are abolished. England distinguished herself from the other nations of Europe by rejecting the civil law as authority, but many of her institutions were derived from its spirit and practice. "With all its imperfections," says Sir William Jones, "it is a most valuable mine of judicial knowledge; it gives law at this hour to the greatest part of Europe, and, though few English lawyers dare make such an acknowledgment, it is the true source of nearly all our English laws that are not of a feudal origin." In Scotland, the Roman law has always been a special subject of study; and though the number of native decisions, the extent of statute-law, and the necessary adaptation of the system to a state of society very different from that in which Justinian promulgated his laws, have rendered references to this source comparatively unfrequent, the civil law is still authority where the particular law of Scotland does not contradict it. It is a special object of study by the legal profession, and is the subject on which the members of the bar are first examined before they are admitted to practice. To complete the general outline of the influence of this system in modern Europe, it must be mentioned as the source of the canon law, which was created into a system by the Church of Rome, and still exists more or less, either separately or incorporated with other systems, in all countries where the papal authority was acknowledged. The law of nations, or international code, has been, by the common assent of civilised nations, derived from the law of Rome.

Writers have divided the legislative sources from which the laws of Rome spring into five. Among the first of these is generally classed the people, and the laws sanctioned by them are technically divided into the *Lex* or *Populiscitum*, and the *Plebiscitum*, the former including the acts of the whole people, the latter those of the plebeians convened by their tribunes. It would appear that, in the earlier periods of the monarchy, the authority of all classes was in this description of legislation tolerably equal. Servius Tullius, however, the sixth king, introduced the well-known divisions into centuries and classes, by which ninety-eight votes were secured to the first class, while ninety-five only were allotted to the remaining five, of which the lowest and most numerous possessed only one. The tribunes, who were officers chosen for the ostensible purpose of protecting the people from the tyranny of the aristocracy, were, by the exclusive and important power they possessed, again the means of restoring popular decision-

and paternal assistance in legislation, gradually extended itself to that of making laws. It was not till the days of Tiberius that these decrees were publicly promulgated as laws; but the senate had by that time lost its independent authority, and become merely an instrument in the hands of the emperor. The proceedings of the senate were generally suggested by some public officer, as a minister of the crown now introduces a bill into parliament, and a majority decided for passing or rejecting. In later times it became the practice for the emperor to propose a new law either by a message or letter laid before the senate, or by an oration delivered; and as there was no opposition intended or permitted, the legislative body became the mere registrars of the monarch's will.

Another source of the civil law is the constitutions and rescripts of the emperors. At what time they commenced the practice of making laws without the nominal concurrence either of the senate or the people, is not very distinctly known. A passage in the Pandects, the authenticity of which, long doubted, has been confirmed by late discoveries, states that the will of the emperor is law, and that by a particular act, the people had conferred upon him all their own power, which was thenceforth absolutely to remain in his hands—one of those transactions under the guise of which rulers are so fond of concealing their lust of power, by representing as a free gift that which no one can venture to refuse. Hadrian is believed to be the first emperor who exercised the authority of a supreme legislator. The imperial laws were issued in a variety of forms. Sometimes there was a new constitution springing from the monarch's own creative mind—on another occasion he would give his imperial judgment on some nice speculative question of law dutifully submitted to his wisdom. Many of the imperial laws, however, were the decisions of the monarch in particular cases, the spirit of which was piously preserved by the lawyers of the age, as the best criterion for a general rule of action. In modern times we associate with despotism a horror of innovation, and a desire to leave all institutions, whether expedient or hurtful, untouched. It was different in

of the prætors was somewhat simil
rence, that as they had no judges to
pursued a system of strict interpret
had rather a tendency to modify the
to raise a rival structure. "The
wish of the dead," says Gibbon, whe
prætorian system, "was suffered to
order of succession and the forms of
the claimant, who was excluded in
heir, accepted with equal pleasure
prætor the possession of the goods o
or benefactor. In the redress of pri
pensations and fines were substitut
rigour of the Twelve Tables; time an
hilated by fanciful suppositions; and
or fraud, or violence, annulled the
cused the performance of an incon
With the expiry of his year of office
prætor ceased to be imperative; bu
looked up to as precedents; and w
venerable by long use, they were con
the fixed law of the land. By an
Emperor Hadrian, called the "Per
doubtful and fluctuating branch of th
much of it as the emperor chose to s
what might be called the royal asse
porated with the other portions of t
distinct branch of the system.

In almost every nation which has
from barbarism to civilisation, many
to have come into existence without
ference of any legislature, and from
origin than a habit on the part of t
mitting to certain rules, or obeying
certain individuals: it is, indeed,
manner that legislatures have origin
able portion of the Roman law wa
arose in custom, was handed down by t
tice, and called consuetudinary law.
question, how far it was necessary
tent authority should certify that the
was an established portion of the a

ich the judge, if he be the first to interpret the will be at least suspected! Even in England, e interference with the doctrines of the common is so jealously opposed, the early commentators he only authority for its provisions; and there is ubt that they gave the hue of their own opinions e doctrines they laid down. In Rome, however, e the profession of the law, instead of being a , conferred a high rank in society, the opinions of g counsel had a much more extensive range. not only interpreted, but they could create law, ggesting how the decisions should proceed in nary cases. At an early period, the relation of r and client was that of patron and dependant. cians alone could act as lawyers, and the science nvolved in riddles to which they only possessed y. The poor client was dependent on the good f his lordly patron for such protection from op- on, whether through the law or otherwise, as the ce of the latter might enable him to afford. population and transactions increased, and the instead of a mystery, became a serious study, depended more on laborious application than initiation, the profession was opened to plebeians. ame not an unusual case, at a still more advanced for the patron and lawyer to be separated; the being chosen for his influence, the latter for ill. The forms which regulated the intercourse n patron and client, however, still retained some of their origin; and it is a striking illustration of fluence which Roman jurisprudence has exer- ver the human race, to find these still existing. s day, it is against all etiquette to bargain with ister for his work. The law gives him no claim nuneration, which it kindly views as unworthy dignity of his profession; and it is usual to pay eforehand for his legal assistance. On the other though he has been paid beforehand, he cannot pelled to perform any duty in return, for he is ed to assist the client from his own free good In most other professions, it is the custom for rson employed to feel under a sort of obligation employer who has preferred him to others. principle is reversed at the bar; for the per- ployed is the patron, and the employer the

to return to the legislation of the sages of the law. the commonwealth, whoever, by his superior y or knowledge, could obtain deference for his ns, might be said to be a manufacturer of laws. the earlier emperors, the privilege of promul- authoritative opinions was confined to a limited r of lawyers, of equestrian rank, licensed by the ment; but the profession was again thrown open public by Hadrian. The most brilliant era of wisdom commences within a short period of the of the republic, and terminates with the reign xander Severus. Mucius Scævola, the tutor of , was one of its earliest ornaments; and it in- the celebrated jurisconsults Paul, Ulpian, Papi- Capito, and Labeo. The two last of these, who in the age of Augustus, were the founders of the cts—the Proculians and Sabinians—into which oman lawyers were divided. The former advo- the doctrine that the laws should be amended at tion, to meet circumstances as they occurred; ter maintained the theory of their strict interpre- , be its inexpediency in the particular instance it may. Capito, applying his doctrines to the s which the emperors were gradually making in reedom of the republic, was a supporter of this s of innovation, and his followers were enrolled the ready tools of despotism. Labeo sought to rt the ancient freedom of the republic by an nce to the letter of the old laws, and his sect e the champions of what may be termed consti- al freedom. The conflict is not unlike that which existed in Britain between Lord Mansfield and Camden; the former supporting, to a certain degree, an equitable, the latter, in all cases, a strict interpretation of the law.

Having now enumerated the principal sources of the Roman law, we may notice its remarkable epochs. The laws enacted during the reigns of the kings, although a curious subject of inquiry among antiquaries, exercised too little influence on the civil law, as handed down to modern Europe, to be of much practical importance. During the administration of the decemvirs, the celebrated laws of the Twelve Tables were adopted. The traditionary history connected with this code is, that the Roman government, conscious of the want of a proper legal system, sent commissioners to Greece, who, after studying the laws of that comparatively civilised nation, produced the Twelve Tables for the acceptance of the Romans. The tradition, like many others connected with the Roman history of the period, has not sufficient historical evidence to support it against its natural improbability. These laws, of which specimens are professed to be preserved, are written in a language so different from that of the classical writers of Rome, that they were to Cicero an object of much the same curiosity as the old Scottish acts were to Bacon. Like the first laws of other rude states, they are simple and brief in their enactments. The bankruptcy system, which has so sadly shocked several benevolent scholars, that they have endeavoured to explain it as a merely symbolical provision, is peculiarly sharp and effective. It enacts that the insolvent debtor shall be cut in pieces, and that his body shall be distributed among his creditors. When law became a science openly studied, the Twelve Tables became the subject of many commentaries. It was not, however, till the Romans had been for some time degenerating, that those great collections of legislative wisdom which have come down to modern times were commenced. The first attempt to construct a code, seems to have been the Perpetual Edict of Hadrian, already alluded to. Two private individuals, Gregorius and Hermogenes, appear to have collected the imperial constitutions into a system, or code, of which some fragments are still preserved. Nothing whatever is known of the biography of these compilers: it has not even been discovered in what reigns they respectively lived, though their labours received high commendation at the hands of Theodosius the Younger. Under this emperor, the celebrated Theodosian Code was promulgated, in the year 438. The compilation of this body of laws was committed to eight individuals, who were allowed considerable latitude in explaining and abridging, and even in supplying deficiencies. It contains the legislative acts of sixteen emperors, from the year 312 to 438. Fragments of this code have been rescued from oblivion inch by inch, by modern scholars, whose labours, it may safely be calculated, have amounted to some twenty or thirty times more than those of the original compilers. The celebrated Godefroy of Geneva spent thirty years in the task; and within the last twenty years, the discovery of some further fragments induced the celebrated Angelo Mai to study the Roman law for the purpose of editing them.

It is now our turn to notice those great collections of the legal wisdom of the Romans, to which the above may be considered only preparatory. In 529, ten commissioners, appointed by Justinian, prepared *The Code*, or *Codex*, as it is termed, from the collections previously made, and the intermediate enactments. Soon after its promulgation, the emperor issued several new constitutions, and the whole were consolidated and re-issued in 534. This great task was superintended by the celebrated Tribonian, whose eminent learning and discrimination, allied with untiring industry, but stained by the vices of corruption and partiality, have afforded a fruitful theme of praise and obloquy. This was by no means Tribonian's only labour. In the year 530, he was appointed the chief of a commission of sixteen, whose duty it was to cull the choice and useful passages from the authors of comments and opinions. The various authorities, which, we are told, would have made several camels' loads, were thus reduced within

of Novels, form the remaining department of the "*corpus juris*," or body of the civil law.

With Justinian we reach the climax of the Roman law; and to trace its farther progress in the empire has been more a subject of curiosity to the antiquary than of importance to the lawyer. Some fragments by later commentators, chiefly in the Greek language, have been disentombed by zealous searchers. The Roman law was nominally respected by the northern conquerors of Rome. Alaric, King of the Visigoths, indeed, caused a compendium to be prepared for the use of his dominions, consisting chiefly of an abridgment of the codes of Gregorius, Hermogenes, and Theodosius. Towards the end of the ninth century, Basilius, Emperor of the East, issued a new code, intended to supersede the labours of Tribonian, termed the "*Basilica*."

In the dark ages, however much of the Roman law may have remained in practice, it had died away in literature, and was neither studied nor commented on. At the taking of Constantinople in the fifteenth century, only one copy of one of the Justinian labours, *the Novels*, seems to have been discovered. It was long believed, indeed, in the learned world, that from the period of the Basilica to the twelfth century, the very existence of the Roman law was among the things forgotten. The circumstances of its resuscitation were found in a traditional anecdote, that at the siege of Amalphi in 1137, some Pisan peasants discovered a complete copy of the Pandects among the plunder, the melodious language, comprehensive philosophy, and clear definitions of which, so charmed the readers of that barbarous age, that its contents were immediately devoured with avidity and propagated with zeal. In Florence, a manuscript is still preserved, said to be the identical book with which this anecdote is connected, taken at the siege of Pisa in 1406. The essence of the tradition has been disproved by late discoveries, which show that the civil law was known previously to the siege of Amalphi.

The real revival of the civil law is to be traced in the history of the universities. Of these, Paris, Bologna, and Leyden, took the lead in the department of jurisprudence. Contemporary with, or immediately after the siege of Amalphi, lectures were given on the Pandects in the University of Oxford, by a teacher of the name of Vacarius. For reasons which we shall have to state when we come to treat of the laws of England,

modern investigators in this sub
taken the lead.

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devoted to the subject of slaver
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The Roman law has already
source of the law of nations, or
called, the international law, in r
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be founded, to as great an extent
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te war, Great Britain maintained that she had a to search all neutral vessels, for the purpose of aining if they contained contraband goods or red deserters. The smaller states were bound to it; but America resisted, and the dispute occa- l a bloody war. So it probably will be again, when me claim is urged. Instead of being a fixed law able to all, the weak will have to obey, and the g will resist. For the enforcement of any rules may be called the law of nations, then, it is clear there is no better sanction than this, that the ns which openly outrage them will call forth a e of indignation on the part of the rest of the l which may prove dangerous. The partition of nd, for instance, called forth the indignation of the f Europe; and it may be still a question whether equisition was a prudent one to the nations con- d. It is not to be supposed, however, that there re courts where the law of nations is enforced. i country in Europe has generally a court where n views on the subject are laid down. England for instance, the prize jurisdiction of the Court of ralty, which is thus called a civil law court. Dur- he late war, when Napoleon by his Berlin decrees ed Great Britain and her colonies in a state of ade, and Britain retaliated by the orders in coun- l the rest of Europe, a multitude of cases where ips of neutral powers had been seized for breach utrality were adjudged. And here a circum- occurred which could not take place probably other country, that the view taken of the law ions by the judge was different from that taken government; for Lord Stowell declared that a cle could not be held to exist by mere proclama- nt that there must be present on the spot an ent sufficient to enforce it.

of the principal defects of the writings in the w, and one that renders the subject in a great re unpopular at the present day, is the spirit of ation with which they are imbued, and the extent ch they carry divisions and arrangements which no service in practice, and provide for wants hypothetical. The civilian in his study, shut out he world and ignorant of its pursuits, set his t work to create the various exigencies of prac- fe to which the maxims of the institute were ap- e, and to devise how they could be applied; but his labours were brought to the light of day, it und that the world in its practice and he in his ts had taken totally different routes, and that e could not be the companion of the other. If r make clothes with another man's cloth, to which two shall they belong? If an artist paint on r man's canvass, who shall be the proprietor of cture? Such were among the subtleties discussed the Roman jurists. In later days, when legisla- ve too much to do in keeping up with the prac- emands of society to indulge in hypothetical law g, such subjects would not be taken up until cases culty actually occurred; and then, before deciding stract questions, it would probably be asked under circumstances tailors are likely to make garments cloth which does not belong to them, or artists nt on other people's canvass?

THE CANON LAW.

e Canon Law is, properly speaking, the ecclesias- law of the Roman Catholic Church. In its more d acceptation, it may be called the by-laws of the ch as a separate corporation; but its field widened the influence of the hierarchy. It embraced many cts of purely civil and municipal law, such as the ibution of property between married persons, suc- on, &c., by linking them with ecclesiastical matters; thus the clerical tribunals came to rival, if not to in importance, those of the state. The canons e Greek Church, a portion of which were said to e work of the apostles, added to and explained by ral councils, were sanctioned by the Novels of Jus- tinian, and have so been viewed as a portion of the body of civil law. A collection of canons was made in the year 520; and this work, with the papal decrees, and the privileges conceded to the church by Charlemagne, formed the chief subject-matter of the canon law down to the twelfth century. It was then that this law ceased to be the mere regulations of a peculiar body, and became a general system of jurisprudence. About the year 1114, a collection of the decrees of popes and cardinals was commenced by Ivo, Bishop of Chartres, and was revised and completed in 1149 by Gratian, a Benedictine monk. Another element in the system consisted of the Decretals, which were rescripts or epistles by the pope, or by the pope and cardinals, deciding how the law of the church stood concerning disputed matters referred to them. These were first collected and edited in 1234 by Raimond de Renafort, chaplain to Gregory IX. This work was divided into five books, to which a sixth was added under the auspices of Boniface VIII. in 1298. These two great works, with some additions made to them by succeeding popes, formed what, in imitation of the collected works in the law of Rome, was called the *Corpus Juris Canonici*, or Body of the Canon Law. Besides these general statutes, there were local canon laws passed by the clergy of various countries, at national or provincial assemblies, held under the auspices of papal legates or archbishops. In the reign of Henry III. there were assemblies of the former kind; and under the respective archbishops of England, there were frequent provincial synods. In Scotland, two provincial synods, held at Perth in 1242 and 1269, passed some important laws regarding tithes.

The great aim of ecclesiastical legislation was to bring civil questions within its pale. Disputes as to tithe and the privileges of the clergy came very naturally to its hand. The priesthood were in a great measure intrusted with the administration of legacies, especially where they were destined to pious uses; and they thus acquired a jurisdiction in questions of succession, of which we see vestiges in this country, in the Court of Arches and the other ecclesiastical courts of England, and the commissary system in Scotland. Marriage being constituted a sacrament, the canon law not only took into its hands all questions regarding the union and separation of the parties, but adjudged in the criminal act out of which the latter circumstance might arise, and took under its cognisance questions as to dower. The church obtained a powerful hold over the proceedings of ordinary courts of law, by the introduction of the practice of witnesses and parties calling God to attest the truth of their statements—the origin of the present system of administering an oath. Over this ceremony, and all matters connected with the truth or falsehood of the statement it sanctioned, the clergy took a particular charge. Notaries, who in the days of ignorance were intrusted with the execution and registration of contracts—who, in fact, were the living registers of almost all transactions of importance, were necessarily taken from the only class who could write—the churchmen, and their appointment and removal naturally fell into ecclesiastical hands.

A great rivalry thus existed between the civil and the canon law; but it was a friendly rivalry. The clergy were the repositaries of both systems, and they had to decide how much should be assigned to the one and how much to the other. The canon law borrowed largely from the civil, of which it is sometimes considered a mere branch; it was naturally, indeed, the object of the clergy not so much to change the law itself, as to take the administration of it into their own hands. To be *juris utriusque doctor*, or doctor of either law, civil and canon, was a common distinction. During Henry VIII.'s reign, lectures on the canon law were abolished in England, and with them the corresponding degree. Jealous as the English were of the encroachments of the civil law, they still more determinedly opposed that of the canon. What the powerful court of Rome had set its heart upon, however,

thus the ostensible origin of the British parliament. Trial by jury has been traced to a similar source. The constitution of the German empire is essentially feudal, and the customs, or peculiar local laws of the various provinces of France, previously to the revolution, were models from which the system was studied. The English law, especially that of real or landed property, is full of feudal usages, though their operation has often been checked. In Scotland, the forms of the feudal system may be found existing in almost original purity, though, as we shall hereafter see, they have been adapted, perhaps as far as they are capable of being so, to the wants of civilised times.

An account of the rise and progress of the Roman law must, for obvious reasons, be far more satisfactory than any that can be given of the feudal system. The former was (at least the greater part of it) the construction of ingenious individuals, possessed of authority to enforce their mandates on their fellow-beings. The latter gradually rose out of circumstances, and the state of society. It was not devised by a powerful legislator, to be promulgated to a willing people; but it rose out of habits and events which took place in an age when there were no historians to record their progress. Hence, the origin of the feudal system has been a fruitful subject of debate and theory; and in the absence of facts, it has often been necessary to resort to moral deductions. It has been maintained by some, that nothing can be more simple than the feudal system; that it was a mere arrangement by which military service was given in exchange for land, and that many half-civilised nations present instances of a similar contract. Ingenious speculators have found the resemblance of the system in particular stages of the history of Greece and Rome, in Turkey, Persia, Hindostan, and the Highlands of Scotland, among the aborigines of North America, and in the Loo-choo Islands. But, however important may be the investigation of such analogies between the practice of mankind under different circumstances, as a part of the history of the human mind, they throw but little light on the feudal system, the chief interest of which is to be found in the vastness of the field which it covered, and the influence which it has exercised for so many centuries over the legal institutions of Europe.

military duties of the heir, the
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and compelling him to marry
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It behoved that there should be posses-
vho were not of necessity soldiers, and it
y to the monarch, or feudal superior, to
e in various other capacities. All, how-
ıe impression and stamp, as it were, of
ı, taxes, honours, and dignities, even board
were feued out; the person who had en-
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ived them that of vassal. The church
ı which were not exempt from the ordi-
ervices. In the earlier ages, churchmen
ıes themselves assumed the spear and
hen it was considered inconsistent for
› fight, it was held as by no means unsuit-
church to employ soldiers. A clerical
; would sometimes appoint a patron, or
ıssistant, in the person of a neighbouring
ould be called the "advocate" of the esta-
ıe use, by the way, to which that word,
esignates a class of peaceful lawyers, was
It is not unfrequent to find in old tenures
lar monastery is to supply so many archers
ı for so many days.
ommunities were another class to whom
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keep watch and ward in their respective
vice in which their own safety might not
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chs, as a counterpoise to the growing power
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ıd civilisation created a power, by which
ıd nobility were effectually held in check.
ose who were placed in the position of
s to the seignior, or lord, were his own
vants, whose power and influence would
n extent, measured by that of their master.
he menial duties of his household, a Roman
›loyed a slave, just as a senator or a pro-
do. The barbarian conquerors, however,
those who performed these functions; and
ho performed for Charlemagne the office of
huntsman, or groom, got for his services the
ıost readily at his master's hands—portions
l territory. The services were thus per-
e consideration for feudal benefices. The
nt of the monarch might have tenants and
ler him; and thus the wages ennobled the
Hence we have had in modern Europe,
he robes, grooms of the stole, masters of
nds, masters of the horse, &c., held by the
ity of the realm. The *graf*, or land-steward
was an important personage. Instead of
the letting of paddocks, and the rotation
was intrusted with the power of life and
he inhabitants. The humble grieve, who
agement of a small landed estate in Scot-
shire-rieve, or sheriff, who performs high
tions in the same part of the empire, have
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officer from whom their names are derived.
udal origin may be as distinctly traced, on
e, in the relation of master and servant in
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lependence, did not carry the same degra-
re slavery; and in the opinion of some, the
the feudal attendant was higher than that
l servant of modern days, who freely gives
his labour and attendance for a price. In Scotland, where feudal usages have lingered so long, it has been remarked, that the relation between master and servant is of a more confidential nature than it is found to be in other parts of the country. While the line drawn between their positions is as clear as it can well be in a free country, the situation of the servant has a more than ordinary share of respectability attached to it, because, instead of being the individual servant of an individual master, he and his race are looked upon, to a certain extent, as the retainers of the house which he serves. On this point, indeed, an adherence to feudal usages in situations to which they are not applicable, has been productive of one of the greatest evils of modern society—the extent to which servants are kept, not for use, but as an ornamental evidence of wealth. Our lineal aristocracy continue to follow, so far as the usages of the day permit, the practice of their ancestors; and the gentlemen of plush and shoulder-knots are the representatives of those who wore buff jerkins, and handled the pike. The rich merchant and manufacturer must not be without the usual insignia of wealth; and thus a race, whom idleness and constant association with each other must deprave, are kept up among a bustling and active community, as if we lived in the days when the majority must either serve or starve. It has been remarked, that in republics such as Holland, the wealth of rich individuals generally took the more ennobling direction of patronising the arts and literature.

In the earlier ages of the feudal system, when there was much land to distribute, the natural features and boundaries were sometimes little known to those who gave it away. The persons who received it were aggrandising and ambitious, and not likely to yield to each other disputed portions. Above all, the conquerors were uneducated, and had little means of giving perpetuity to their bounty by written deeds. From all these circumstances, the investiture of the vassal became a very important and solemn affair. Investiture was divided into proper and improper. By the former, the superior went in person to the land, assembled all his other vassals upon it, and showed them the portion he had assigned to his new follower. The vassal, upon this, did homage, accepting the grant, and promising to perform the usual services in return. By the improper investiture, of the full practice of which in our own day we shall give an instance, the superior gave authority to his bailiff, or some other person, to give investiture, which was done by the symbolical delivery of a portion of the property—some earth and a piece of stone generally—to the vassal, or some person authorised by him to accept the grant and perform his homage. Writing was probably in use before this latter usage was commenced, and the authority was generally a written one. The solemn investiture in presence of the co-vassals finally descended to a mummery between an attorney and his clerks. The necessity to have acts regarding the fiefs of a superior witnessed by his vassals, can be traced to a connexion with two of the most important institutions of modern times. The great vassals of a king, met together in public assembly to discuss what aids they might afford for their fiefs, how they were to defend them, &c., merged into a great council or legislature; and it is to such a body that the British Parliament at least partly owes its origin. At this moment, the Bishops of England sit in the House of Lords in virtue of the feudal baronies which they hold of the crown. Vassals of the lower grade were often summoned to attend at the hall of their lord as assessors, or assizers, to give, partly opinion, partly evidence, concerning some matter connected with the fief, or the conduct or rights of a fellow-vassal. With this institution, the system of trial by jury is intimately connected. A jury of perambulation, for the purpose of ascertaining boundaries—a sort of body lineally descended from the assemblage of co-vassals who were present at the investiture, and witnessed the extent of the gift—has been known in modern times.

such an alienation, however, the vassal dared not in any way interfere with his superior's rights; the latter, indeed, was not presumed to be conscious of the sub-infeudation, unless he had specially sanctioned it, and by doing so, he acknowledged the sub-vassal as his own immediate retainer. When a vassal, therefore, sub-feued without his superior's consent, he gave only a portion of the estate he himself possessed, his sub-vassal being liable to meet all the exactions that might fall upon him. So, if he rebelled against his lord, or withheld the feudal exactions, the superior could seize upon the fief without reference to the claims of the sub-vassal. The highest feudal noble was the Heretoch, who, from the Latin *dux*, a leader, received the designation of duke: this class was intrusted with the administration of large provinces. The graf, who had a smaller charge, was called *comes*, or count; and one class of graf, who was intrusted with the marches, was called the *mar-grave*, *march-graf*, or marquis. These nobles generally held lands of their sovereign, while they were authorised to represent his person over the districts to which they were assigned, administering justice in his name, levying his feudal exactions on his vassals, and receiving their homage. These powerful feudatories were held in check by Charlemagne; but under his successors, and the other European monarchs, it became their aim to be the independent sovereigns of the territories committed to their charge—an object in which they were more or less successful according to circumstances, some throwing off their master's yoke, while others made themselves intermediate superiors between the king and his vassals. The various states of Italy and Germany are illustrations of the working of these events. The feudatories of France made a very near approach to independent sovereignties. They possessed within their own dominions the right of coining money, that of waging private war, exemption from all tributes, except the limited feudal duties by which they acknowledged the superiority of the crown, and finally, freedom from legislative and judicial control on the part of the sovereign and his courts. The vassal, too, in looking after his own concerns, sometimes conquered territories not inferior to those of his lord; and under such circumstances there was little chance of his being an obedient retainer. The Duke of Normandy, the vassal of the King of

and were demanded by the lord caused him outlay. If he had neighbour, or to portion off a re to ransom a son, he demanded a fusely exacted by the knights w sades. In England, the aids tl were restricted by *Magna Char* for the purpose of making the lor for marrying his eldest daughte his person from prison. By ex form, the more servile vassals in subjection. The superior, if he all his vassals to grind their grain to pay a tax for the service they He compelled them to assist building bridges, and he exacted degree of freeholders who cro which placed impediments in the from place to place. He obtaine on the export and import of co found a clever artisan on his pre him and his services for his own

The revival of literature was n feudalism. It brought with it t and canon laws, and it was through that the feudal customs were inte of the spirit of the feudal law is n a view of it would lead to too lo only its effects upon society, but linger amongst us; even in repu is pride of birth, and a knowledge is sometimes requisite in ascertai perty. Perhaps in no country l feudal law been so curiously adj modern society as in Scotland. tion of the system, we have dra of a professional friend the foll manner in which land is conveyed of Britain. All the land in Scotlan and the greater portion of it is p the freeholders. Let us suppose selling a portion of his property, down, or an annual payment. T to the contract—that of the seller act the part of a feudal lord givi would be quite inconsistent for h

it. The other two parties are the witnesses. kes the buyer the vassal of the seller; but it is y preferable to be in exactly the same position the seller was. To accomplish this, the con- he seller's superior must be had, and according l usage, it is thus signified. In virtue of an y, or "procuratory," a representative of the es to the superior, or his representative, and ymbol of a "staff and baton," as the law-books practically of a pen, the lands are delivered hands of the superior, who transfers them over rchaser by handing the pen to him or his agent. lows an investiture by the superior in the above ich is conducted in virtue of a charter granted o his new vassal. To the superior this is not a barren ceremony, for he receives a year's he property to reconcile him to the change of

THE LAW OF ENGLAND.

id has already been mentioned as an exception eneral prevalence in Europe of the civil and ws; not that these systems were totally re- ut that they met with a countervailing resist- ich prevented them from obtaining the influ- y possessed in other countries. This resistance ound in the existence of a different, and, it aps be said, hostile system, called the common to the power of parliament to make laws or The three great elements of the jurisprudence nd are the common law, the law of equity, and ate law. To these may be added, as codes o particular spheres, the admiralty law and siastical law.

ng of the common law, Sir Matthew Hale, its says: "This is that law by which proceedings rminations in the king's ordinary courts of re directed and guided. This directs the course nts of lands, and the kinds, the natures, and nts and qualifications of estates; therein, also, ner, forms, ceremonies, and solemnities of ing estates from one to another; the rules of acquiring, and transferring of properties; the olemnities, and obligations of contracts; the l directions for the exposition of wills, deeds, of parliament; the process, proceedings, judg- nd executions of the king's ordinary courts of the limits, bounds, and extent of courts, and isdictions; the several kind of temporal offences ishments at common law, and the manner of ication of the several kinds of punishments; ite more particulars, which extend themselves as the many exigencies in the distribution of 's ordinary justice require."

on Law.—The origin of this system, one of the eresting subjects of modern investigation, is in deep obscurity. Its progress, subsequently to n of Edward I., who has been called the English n, is pretty accurately noticed; but when an un- nal inquirer reads those portions of English law- hich attempt to carry the history to an earlier e cannot help feeling disappointed at the unsatis- result. The more marked features of the system ubtless, the customs of the Anglo-Saxons. A n of the laws of England during the heptarchy, of the Anglo-Saxons, was published by an emi- iquary, at the commencement of the eighteenth ; but there is great reason to believe that they itten some centuries after the Conquest, while gments of Anglo-Saxon legislation which they refer chiefly to the arrangement of the military he clergy, and other matters of general or police on, which, in the present instance, are less in- g than a little insight into the laws relating to rights would be. Alfred and Edgar have ac- much fame for having collected and arranged of their predecessors, reformed them where e impolitic, and completed them where deficient; uld be difficult to determine their exact merits. Edward the Confessor enjoys a similar reputation. To him, indeed, history supplies us with good ground for referring equitable laws, for we find that when the people complained against the oppression of the Norman kings, they demanded "the good old laws of Edward the Confessor." It is probable, however, that the compliment did not apply to him so much in the capacity of a legislator as that of the last of the Saxon kings.

Whatever may have been the exact nature of the laws of the Anglo-Saxons, the Conquest effectually incorporated them with the feudal system, and the connexion between vassal and superior became one of the most important features of the common law. It is not to be supposed, however, that this was the earliest visit of feudal institutions to Britain. The Saxons could not well escape the influence of a system which had deeply rooted itself among the kindred nations of the continent; and many feudal institutions are to be found existing under the Saxon kings. The increase of the spirit of feudalism under the sway of William the Conqueror was, however, so great, that many authors have attributed its origin in England to the era of the Conquest. It was then, indeed, that it became oppressive. The conqueror brought with him the system of his own province, for which he was a vassal to the King of France, and could not admit the possession of landed property in England, except as held from himself in the capacity of lord paramount. The greater nobles—chiefly the conqueror's companions in arms—naturally held the lands he liberally bestowed on them of him as superior, and they compelled all who lived upon their lands, or even in their neighbourhood, to acknowledge them as liege lords. The forcible increase of such a system as the feudal law, could not but be attended with acts of great oppression. These were added to by the selfish magnificence of the princes, who cleared large tracts of country of inhabitants, that they might enjoy the regal pleasures of the chase in undisturbed tranquillity. The Saxons had their own county courts, but the greater part of the causes were, after the Conquest, removed from them to be pleaded in the court of the monarch, which attended on his own person. Legal proceedings were conducted in the Norman dialect of the French, which was afterwards changed into Latin. The use of a tongue unknown to the people at large, continued down to the days of Oliver Cromwell, and at the Restoration was restored, with other equally useful practices. It was abolished in as far as respects the proceedings of the courts in 1730.* If we knew nothing of the veneration with which the Saxons looked back upon "the good old laws of Edward the Confessor," the obstinacy with which they preserved their language would have led to the presumption that they had been equally tenacious of their ancient customs. The former outlived every attempt, moral, intellectual, or physical, by reprobation, sarcasm, or force, to extinguish it, and so, to a certain extent, did the latter. The judicial system, and the tenure of land, might both be altered; but to their original customs the people adhered so resolutely, that these were at length blended with the opinions and feelings of their Norman tyrants, and became to a certain extent the system of law which they administered. There was a further leaning on the part of the barons to the popular customs, from this circumstance, that the priests, whom they viewed as

* For many purposes connected with legal practice, Norman continued to be employed—law-books were written, and cases reported in it. The following specimen of a formal document of the end of the sixteenth century, gives a grotesque picture of the manner in which languages were twisted to suit the convenience of those who used them:—

"Fuit resolve per le pluispart de les justices et le counsell del Roigne, cest terme à Sergeants Inne, in presentia comitis Sussex Justic. Forestar citra Trentram, que le building dun novel Mease in le severall soyle on waste dascun home deins un Forest, est un purpresture et noyance al Forest et Game, et finable ou arrentable, pour le tolleration ou permission de ceo destroyer al arbiterment et discretion del justice, ou raceable et destrue al pleasure," &c.

leges are, in a great measure, constitutional, and it has often been said that it was procured for the advantage of the aristocracy, and not of the people; but it is not without stipulations in favour of the latter, protecting them both from the crown and the nobility. It restricts the tyrannical forest laws, and the exactions by feudal lords from their vassals. The clause which has attracted chief interest, however, is that which says that no freeman shall be affected in his person or property, save by the legal judgment of his peers, or by the law of the land. Legal writers have found a stately tree of liberty growing out of the seed planted by this simple sentence. They see in it the origin of that judicial strictness which has kept the English judges so close to the rules laid down for them in the books and decisions of their predecessors. The judgment by peers is said to refer to jury trial, and it is urged that the whole clause strikes against arbitrary imprisonments, and involves the principle of the *habeas corpus*, by which every man, whose liberty is restricted, may demand to be brought before some competent court, that he may be either convicted or liberated. The great charter has always been a favourite object of veneration, both with the aristocracy and the people, and Sir Edward Coke reckons thirty different occasions on which it was ratified.

Civil liberty may be defined as the permission of such an amount of free action as it is most conducive to the welfare of all that each individual should possess. This is one of the most important objects of the laws, and the circumstances which conduce to its existence are among the most interesting in legal history. In England, the progress of liberty has been in a great measure attributed to the division of interests in the country. The crown had an interest in checking the power of the great nobility. That the exercise of this power was essential to the liberty that has existed in England, is apparent in contemplating the state of France and Germany, where the aristocracy made themselves either quite or nearly independent of the crown, and revelled in the tyranny of their despotic wills unchecked. A very important blow to the power of the aristocracy was accomplished by Edward I. in 1290, by the abolition of the system of sub-feuing. From that day, no vassal of the crown could grant lands to be held of himself, as he may to this day in Scotland—he could only put a

King's Bench, Common Pleas, an
they might not interfere with each
ness; to do which they must now
fiction, very necessary and benef
enlarged state of property. He st
of the inferior courts in counties, in
confining them to causes of no grea
to their primitive institution, tho
greater than by the alteration of
they are now permitted to determi
property of the subject, by abolishi
and talliages levied without cons
council. He guarded the common j
from abuses, by giving up the
sending mandates to interfere in
instituted a speedier way for the r
granting execution, not only upo
but also upon lands, by writ of
signal benefit to a trading people
commercial ideas, he also allowed
in a statute merchant, to pay debt
contrary to all feudal principles."
reform refers to measures for ena
possession of his debtor's land in
How opposed such a remedy wo
ciples may easily be conceived, a
which Edward made his reforms
considered that what he had thus
completed in 1833. If the debt c
were not substantiated by some
ment, his land could not be app
on his decease, and it was only in
property was made fully available
debts." The statement that Ed
on ecclesiastical jurisdictions, re
which the clergy arrogated regard
under the head of the canon la
them the charge of the deceased's
them to employ the money in pay

From the period when we disco
common law in existence, we fin
rously enforced by the judges.
very frequently, as society progre
wants of an age very different f
was invented; but, in doing so, ins

opriety of the form of action being applied to ose, would not allow the party to show that s no finding in the case. Hence the well-known trover, from the French *trouver*, to find. Some illustrations of fictions of law will be given when ribe the method in which the courts acquired isdiction.

ns were not, however, the only means by which es, while adhering apparently to the letter of could adjust it to their own views of the wants y. A far-seeing judge who looked forward to able rise of a new system of transactions, could, ying of the principles of the law that might be perceptible at the moment, adapt them to the encies. It was thus that Lord Mansfield, with-aid of statute, created the law of insurance. re frequently many underwriters, or insurers cy, and had the practice been as it was, each ave had to be prosecuted separately on the of a loss; but Mansfield, by a very slight ce from previous practice, brought all the a policy into one action—an expedient with-h the system as it at present stands could existed. This was accomplished by a rule known by the name of the consolidation rule, all the actions except one is stayed, on the defendants becoming bound to abide by the that action. In their covert efforts to change the judges did not spare even acts of parlia-hey managed to hit a blow at the power of the cy, by limiting the operation of the statute of When the holder of the entailed estate wished he let the buyer bring an action against him, that he had no title. He said he had bought erty from some one—usually the crier of the hose duty it was to support his title. The ng called in, made default, and was nominally to give the holder under the entail an equi-rith whom there was no effectual competitor, e estate was adjudged to the purchaser.

positories of the common law are the treatises nt lawyers and the reports of decisions. Of ier, there are several of the thirteenth and th centuries—Glanvil, Bracton, Hengham, and called Fleta, the authorship of which is un-Lyttleton's treatise on Tenures, the work of a atured system, was long the text-book in the of the feudal law. It was in the humble form ment on this work, that the great Chief-Justice ued the vast treasury of legal learning so fami-own as "Coke upon Lyttleton," a book which lf an almost inexhaustible subject of study to er. The next great name is Blackstone, a man ught elegant accomplishments to bear on the drudgery of the law, and wrote a book, the clear ity of which has made many men acquainted laws of their country who would have other-ained profoundly ignorant of them. The book great defect, that, professing to be not merely ition of the laws but an estimate of their worth, s indiscriminate eulogy on all the vices of the s well as its advantages. The reverential eye ich English lawyers look upon whatever is in the common law, is singularly apparent in rity of law-books. If any great authority, such or Blackstone, has treated of a particular sub-oever afterwards writes upon it seems to be nd to incorporate all that he has said, not only but in words. As the passages are not marked d, the effect is a very peculiar one; for the after perusing a few sentences in the easy flow ineteenth century, finds himself unexpectedly d in the quaint language of the reign of James ut the slightest hint that he is going to get, not ment of the author himself, but something taken ke or Spelman. Of the reports of cases there vast collection. From the time of Edward I. of Henry VIII., they were annually collected rs appointed for the purpose, and were called year-books. They have latterly been published by private reporters. As they are all precedents for guidance in succeeding cases, and therefore the source to which the public look for the interpretation of the laws they must obey, it may be questioned whether they should not be officially recorded by persons responsible for the accuracy of their reports. This plan has, to a certain extent, been adopted in America.

Law of Equity.—The peculiar strictness with which the common law was administered, gave rise to the other great division of English jurisprudence—the law of equity. This was originally a system by which relief was given in cases where a strict interpretation of the common law would have produced injustice. It could look to the influence of accidents and frauds when common law could not. A deed, for instance, was lost. The common law courts could hear nothing about what might have been its contents. They could see nothing, know nothing, act on nothing, but the express words of the deed as set before them, and as that could not be found, the party must suffer. Here the court of equity came to his relief, by compelling a "discovery" of the contents of the document. When a trustee was put in possession, common law could not look at him in any other light but as holding for his own behoof; but equity compelled him to do his duty to his employers. Where an obligation was to pay, common law could comprehend its nature and exact performance, but if it was to perfor many other act, the assistance of equity was generally necessary. Again, the courts of law might give a remedy for a mischief after it had been perpetrated, but they could not interfere to prevent it. This necessary branch of legal administration came likewise within the jurisdiction of the judge in equity, who, on cause shown, could issue his "injunction."

The origin of this system is as obscure as that of the common law, though it is evidently of a more modern date, having been introduced as a remedy to the evils of the latter. The earlier law-books do not mention it, and it was probably long in operation as a sort of exception to the ordinary course of law, before lawyers would acknowledge it as a system. Its most plausible origin is simply this—that when a person suffered a manifest injury, which the ordinary courts could not remedy, he applied for redress to the sovereign in person. The king's conscience-keeper, or chaplain, became the referee on these occasions, and what he did he sealed, by way of testimony of the royal authority, with the king's seal. Hence the origin of the lord chancellor with his great seal, whose office, in this form, has been traced, or imagined to be traced, so far back as the days of Edward the Confessor. In early times, the chancellors were ecclesiastics, and they thus were in the habit of adjusting their equity, and the form in which they administered it, to the civil law. This occasioned great feuds with the common law courts, which at the commencement of the seventeenth century raged so fierce, that in a case where a remedy was sought in equity from the proceedings of the Court of King's Bench, the lawyers who conducted the proceeding, and a master in Chancery, were indicted for an offence. With the assistance of King James, whose legal notions were derived from the civilians, the courts of equity triumphed. The great Sir Edward Coke was then at the head of the King's Bench—a man who, notwithstanding his harsh and tyrannical acts, must still be admired for the bravery with which he supported the strict administration of the law, however high might be the personage who wished to evade it. Whatever may have been the origin of equity, it became at last a fixed system of law. It is a popular mistake that a judge in equity gives his decision according to what is called "the general principles of equity and justice," without reference to strict rules. He is bound down by precedents and rules, and there are many acts of parliament which regulate his proceedings; so that, in reality, equity is but a department of the general system of law.

Statute Law.—We have now to speak of the third branch of the law—statutes, or acts of parliament. The

tain the exact words which it was intended should constitute the act. Singularly enough, the bill is still in the form of a petition, and when it is made an act, all the alteration that takes place is, that the words "May it therefore please your Majesty," are taken out. A bill may be introduced either in the House of Commons or in the House of Lords. It is a rule, that all bills affecting personal station—such as bills of attainder for treason, bills for naturalising foreigners, &c.—shall make their first appearance in the House of Lords. The commons possess the more substantial privilege of originating all bills of supply, or for the levying and appropriation of taxes. The privilege is jealously guarded, and it is usual, should the House of Lords amend such a measure, for the House of Commons to refuse to take it into consideration again, and to authorise their speaker to throw it over the table. About seventy years ago, in the case of a bill for the protection of game, the House of Lords thought fit to raise the penalties higher than those sanctioned by the lower house, and as the money went to the exchequer, the commons considered this an infringement of their privileges, and acted accordingly. All measures involving taxation originate in what is called "a committee of supply," in which the house is presumed to be sitting, not to debate great questions, but simply to transact pecuniary business. In the case of the introduction of any ordinary bill, amending the law, into the House of Commons, the first stage is, to obtain leave from the house to "bring it in." In the House of Lords, a member may move a bill without previously obtaining leave. On a bill being brought in, the next step is the first reading. A member moves that it be read a first time. If there be a party in the house bitterly opposed to the principle of the measure, it may be opposed in this stage, and a debate and division will of course ensue. If the objections be merely to the details, they are reserved for a future opportunity. On its passing this ordeal, the bill is ordered to be printed. The next ordeal is the second reading, after which the bill is referred to a committee of the whole house, to be examined. In this committee, as in a committee of supply, the body is the same in every respect as that which constitutes the House of

ment, is reserved to the King's or Que
the printed edition of the statutes, ea
vided into sections. This arrangement
by the printers for convenience of refe
original copy of the act there is no su
whole is a continuous manuscript witho
the division into chapters even authorit
quence is, that when a new act is passe
tion on some part of a previous one, it
ing the chapter and section that is alt
the act vaguely, as an act passed in su
such a purpose. Thus, in 1839, an a
alter a section of the Patents Act, pas
any ordinary purpose, this would hav
act to amend the seventh section of
William IV. chapter 83; this would
exact point at once: but as there are
as chapters and sections known in law
could only give a roundabout descript
act to amend an act of the fifth and si
reign of his late Majesty William IV., i
amend the law touching letters-patent
Sometimes, there is a series of acts,
amending those that have preceded th
titles are involved in almost inextri
Even where the acts are divided into
are by the printers, it is found very diff
to unravel their meaning, and to unpre
they are often a sealed book. A sectio
sists of but one sentence, and as it ha
long narrative of things that must be
dently of circumstances, and others th
in particular cases, and others that n
are not imperative, and others that m
&c., the comprehension of the full mea
tence requires a strong mental effor
statutes, there are individual sentences
in the form of an ordinary novel, woul
pages.

There are some acts which are pass
in the same terms, such as the Mutiny
nity for neglecting to take the oaths, &c
of these, the statutes now passed in a s

upy a twentieth part of its present bulk, spoke
larm of its overgrown size, and recommended
e whole ought to be abridged before it should
unmanageable. Already something has been
The revenue acts, which occupy a large por-
the statute-book, were partially consolidated
. About 400 acts relating to the customs, and
matters, the prevention of smuggling, regis-
of vessels, &c., were repealed, and the new
ions on the various heads were consolidated
acts. To these acts, each subsequent session
nerally made some addition; but to prevent
on from this source, a very simple remedy
en devised. When there have been several
s made to an act, a new one is framed, embody-
whole contents of the old act, as altered by
sequent ones, and then all previous legisla-
the subject is repealed. Thus, in 1833, all the
ouse acts were a second time consolidated;
o say, the acts of 1826, with the additions and
ns made to them by later acts, were embodied
in a set of new acts, so that no one, in consult-
customhouse laws, can have to go farther back
33. Measures are no doubt in preparation to
this principle to other departments. At this
there are upwards of 120 stamp-acts in ope-
ne of them as old as the reign of William III.
stence of these confused masses of legislation
lly prevents people from being able to act up
aws, however willing they may be, and their
on is frequently in other people being equally
t of the laws that are broken. Invidious inves-
into antiquated laws, are thus occasionally the
f subjecting individuals to great hardships, by
punishment upon them which no foresight
ave averted. Hence the trade of what are
ommon informers, whose vindication of the law
often the effect of merely heaping calamities
viduals, instead of producing a uniform obser-
f the laws. The pursuit is a very unpopular
t when laws are in every respect just and good,
ficult to see how the enforcement of them can
than an advantage; and it would appear to an
diced stranger to be a somewhat contradictory
first to make laws, and then teach society to
d punish those who put them in force. As
dvances in intelligence, the necessity for the
of the whole system of law, and its simpli-
into one comprehensive code, will become
pparent, while the mode of administering the
ourts will also be seen to require revision.
thing at present indicates that we are ap-
ng the point when these important steps must
.

ish Courts.—We have now to notice the various
f law in England. The House of Lords must be
ked as a general court of appeal from the whole
m. There is only one set of superior judicatures
hich a reference may not come before it in some
other—the criminal courts of Scotland. The
f parliament is connected with the great council
feudal kings, which gave them advice both in
ve and judicial matters. When parliament was
ed into two houses, the judicial business adhered
ral to the upper, and, probably at the insti-
of the bishops, the Lords adopted the power
inistering oaths, which was not possessed by
mmons—a circumstance which more distinctly
l their judicial character. To bring causes which
ssed through the hands of learned judges under
ct cognisance of a body consisting of clergymen,
, and young men of fashion, would be too prepos-
to be practically adopted; and though the appeal
inally taken to the House of Lords, it is heard
sided on by one of the eminent lawyers, of whom
re always several in the house, and generally
Lord Chancellor. Independently of their powers
ges of appeal, the Peers act as a criminal court
cases where a peer of the realm is tried for a
capital crime. They are formed into a temporary tribunal for the occasion, presided over by a judge called the lord high steward. This official is properly the judge, the peers acting as a jury, and giving their verdict on the question of guilt. The directly feudal origin of this relic of ancient practice will be at once recognised.

The principal courts of first resort, are naturally divided into courts of common law and courts of equity. The former are three in number; the King's or Queen's Bench, the Common Pleas, and the Exchequer. Each has a chief, and four assistant judges, called puisne or junior judges. These courts date their origin to the Conquest. On feudal principles, the Norman kings called all the principal causes which had, under the Saxons, proceeded before the county courts, to be decided in their own hall, or court, by their own great council, which was presided over by an officer called the justiciar. This court, called the *Aula Regis*, or King's Court, at first followed the king's person, a great inconvenience, removed by Magna Charta, which fixed it permanently in Westminster. Under Edward I., the system was adopted of sending deputations from the court twice a-year, to try cases in various parts of the country. Under the same monarch, the jurisdiction of the court was split into three parts. To the justiciar, afterwards called chief-justice, were assigned the pleas of the crown, as they were termed, involving all offences; and being the highest judicial officer in point of rank, his court was appointed to have cognisance over the two others. The matters connected with the exchequer, viz. the regulation of the royal domains, the collection of duties and other taxes, were committed to judges called barons, presided over by a chief-baron. All questions about the possession of land, and other litigations between one citizen and another regarding matters of property, were called "common pleas," and were committed to certain justices, presided over by a chief-justice.

The King's or Queen's Bench is thus the chief criminal court, and the Exchequer is the principal tribunal for revenue matters; but these courts are by no means restricted to the departments to which they are so assigned—they possess, concurrently with the common pleas, a jurisdiction in all ordinary questions of common law. The manner in which they obtained this power is one of the most extraordinary circumstances in the history of the laws of any country. The instruments made use of were, as has been hinted, the fictions, described as a peculiarity of the English law. To get at the real motives which were at work, it is necessary to recollect, that formerly not only the judges, but all the officials connected with the several courts, were paid by fees, the amount of which depended on the extent of business transacted. They were thus like so many tradesmen keeping shops for the sale of justice, each anxious to keep a large supply of whatever was most wanted, and to serve the public on the most tempting terms. In this manner, the courts of law undersold the courts of equity by not demanding any sanction, such as an oath, for the truth of what litigants declared in their pleadings. An arduous run for business was carried on between the three common law courts, the accounts of which, as given in the legal histories and law-books, are infinitely grotesque. The extent to which a court could carry its jurisdiction by these means, depended less upon reason than upon the muscular power of those officers of the court who enforced its decrees. The Exchequer, when it attempted to levy taxes, was told occasionally that the person charged with them could not pay, by reason that his debtors had not paid what they owed him; while he hinted, that if the Exchequer wished his money, they had better assist him in recovering it. On this, it became the practice of the Exchequer to assist those who were in debt to the crown to get payment of the money due to them. It occurred to some ingenious lawyers, employed to recover debts, that if they stated to the Court of Exchequer that certain clients were debtors of the crown, and could not pay by reason of their own debtors not satisfying their

demands, the court would make very little inquiry into the truth of the statement, but would adjudicate in the case, and levy the money forthwith. The court made so little inquiry as to the truth of the case, that it would not allow the statement to be contradicted, however inaccurate it might be; and down to the year 1832, when one brought an action in the Court of Exchequer, it was a matter of form that he should say he was a debtor to the king, and that he could not pay his debt, unless an obligation, incurred in his favour by the defendant, were fulfilled. The jurisdiction of the King's Bench was limited to cases that were either purely criminal, or had some connexion with offences. When any one, however, happened to be in the prison of the King's Bench for an offence, there was no means of getting at him but through that court; and so the plan was devised, of stating that a man was in the King's Bench prison when he was not. "And in process of time," says Blackstone, "it [the Court of King's Bench] began, by a fiction, to hold plea of all personal actions whatsoever, and has continued to do so for ages: it being surmised, that the defendant is arrested for a supposed trespass, which he never has, in reality, committed; and, being thus in custody of the marshal of the court, the plaintiff is at liberty to proceed against him for any other personal injury, which surmise of being in the marshal's custody the defendant is not at liberty to dispute." These fictions were not abolished until the year 1832, when, by act of parliament, an uniform process was established in the three common law courts. An appeal lies from the decision of any one of these courts to the judges of the other two, who, when met to decide on such appeals, constitute a court called the Exchequer Chamber. Fourteen of the fifteen judges who form these common law courts hold the assizes in the various county towns—in some of them twice, and in others thrice a-year. Here they act both as civil and criminal judges. Offences committed in London and its vicinity are tried by a tribunal lately created, called the Central Criminal Court.

The origin of the authority of equity tribunals has been already considered. The principal establishment of this description in England is that of the Chancery. It has in it three distinct courts, and three judges—the chancellor, the vice-chancellor, and the master of the rolls. Formerly, all proceedings in bankruptcy centered with the lord chancellor, but the increasing importance of this class of business rendered it necessary to appropriate a separate court to the purpose. This was accomplished in 1832 by Lord Brougham's act. The term Bankruptcy is in England confined entirely to persons engaged in commerce; and the jurisdiction of the court is so limited. Previous to its formation, however, it had been found expedient to create a court for the relief of insolvent debtors who might not be engaged in trade, on their giving up their property to their creditors. By Sir John Campbell's act for restricting imprisonment for debt, the practice of relieving insolvent debtors was improved, nearly on the model of the Scottish system of *cessio*, and a bankruptcy code was applied to debtors who might not be tradesmen. The utility and importance of the Insolvent Debtors' Court were thus materially enlarged. Another court was lately brought into existence, called the Judicial Committee of the Privy-Council. It consists almost entirely of the judges of the other courts. Its principal jurisdiction is in appeals from the colonial courts, and the Court of Admiralty. This Court of Admiralty has jurisdiction in maritime contracts, and crimes committed on the high seas. Having to deal with matters in which the inhabitants of this and of other countries are jointly interested, it professes to follow, not the special law of England, but the general commercial law of modern Europe, founded on the Roman law. In time of war, the court receives a commission to adjudicate regarding prizes taken from enemies, or from neutrals committing breaches of neutrality. Besides all the tribunals already mentioned, there are ecclesiastical courts in the two archiepiscopal provinces of Canterbury and York. In the former, there are
of Arches, the Prerogative or Testamentary
the Court of Peculiars; in the latter, the
Court and the Chancery Court. There are
inferior ecclesiastical courts. The chief
exercised by these tribunals, besides
siastical discipline, is in matters relating to
to moveable goods. If we were to complete
English tribunals, it would be necessary to
justices of peace, who, besides many
in revenue and other matters conferred by
liament, sit, at the general and quarter-
judges in minor offences. Then there are
of greater or less jurisdiction, connected with
boroughs; and, in some places, establishments
courts of requests, for adjudicating in
debts.

After having detailed the legal system of
it is unnecessary to describe that of Ireland,
almost in all respects a model of it. The
system of England was lately ingrafted on
the empire, and the principles of the improved
Debtors' Act were extended to it in August
chief distinction in the nature of the
consists in this, that in Ireland a considerable
of the judicial business is transacted at
ral session, held quarterly by the justices of
who act under the advice of professional
assistant barristers.

LAW OF SCOTLAND.

From what has been already said, it will be
that the law of Scotland was chiefly
feudal system and the Roman law. The
in practice according to the form in which it
itself to the particular customs of the country,
was taken from the doctrines of the civilians.
and progress of feudalism in Scotland are
The chroniclers attribute the foundation of
to Malcolm II., in the eleventh century, but
probability. It is more likely that, with
foreigners, Saxon and Norman, to the
Scottish king, subsequently to the conquest of
the system was imperceptibly and gradually
The monarchs, who were ambitious of
distinguished court, gave particular
the Normans, to whom they granted large
ships; and it was natural that they should
same homage to which they were
country of their origin. The whole of the
indeed, and a great part of the Highlands
nearly as thickly adorned with Norman
names as the broad plains of England; and
alien aristocracy that submitted with so
rence to the claims and encroachments of
There appear to have been many points on
earlier laws of the two divisions of the island
tical. In England, however, as we have
the feudal system received many checks,
land it was allowed to grow rank; and the
paid to the civil law in the north served to
distinction. The alliance and continued
France, moreover, naturally drew the legal
the direction of the example set by that

There is little information to be derived
the practice of the law in Scotland previous
teenth century. Edward I. probably
vestiges, through which its history might
traced; but he seems to have been
antiquaries with the destruction of
existed. He did more, probably, by
by destruction to poison the sources of
prudence. The earliest alleged collection
commonly called the *Regiam Majestatem*,
a resemblance to the English work of
above, that it is naturally supposed to have
not of what the laws were, but of what the
wished them to be. The earliest Scottish
whose works are quoted, is Balfour, who

ıe latter end of the sixteenth century, a com-
ı, chiefly derived from the Regiam Majestatem,
of parliament, and the decisions of the court.
eign of James VI., a commission to make inquiry
laws, of which the celebrated Sir John Skene—
ir James Melville chose as his legal adviser on
assy to Denmark, because he was "a stout man
Dutchman"—was a member. They collected
blished many acts of parliament, the Regiam
ıtem, and other consuetudinary laws, such as
toms of the royal burghs; and Sir John Skene
curious work on the meaning of technical legal
ions. But the first really scientific writer on
r of Scotland was Sir Thomas Craig, whose
ı the feudal law was published in 1655. It is
of great learning and thought, in which the
is somewhat surprised to find that, though the
rofesses to be a Scottish law-book, it should
so much of its learning from the practice of
ntal nations. The next great authority is Lord
ıe equivocal statesman of the reign of James VII.,
Institute, on the model of that of Justinian, is
able for the breadth of its legal principles, and
teness with which they are practically applied.
fter the middle of the eighteenth century, a
Institute was prepared by Mr Erskine, professor
ish law, more suited to the knowledge of the age
at of Stair, but more dry and formal. Sir Walter
as justly denominated Erskine's Institute the
ı "Coke upon Lyttleton." There were formerly
ortunities of acquiring a legal education in Scot-
ıd it was the practice for the youth studying the
ı law to repair to one of the continental univer-
ımong which Leyden and Paris were preferred.
occasion of the appointment to a chair of law
ıdeen, in the seventeenth century, Spalding the
ıler says, it was "strange to see ane man ad-
to teach the lawes, who was never out of the
e studieing and learning the lawes;" thus ex-
g his astonishment that any man could be pre-
to become acquainted with a system of law on
t where it is administered. The civil law is still
ɔdly studied in Scotland, but its ancient influence
ık beneath the progress of commerce, and the
e of statutory regulations, which compel the
to spend much of his time with acts of parlia-
nd reports of decisions.

land has a considerable quantity of early statute
t not nearly so much as England. Down to the
f the Revolution, the general principles only of
ı had the assent of the assembled parliament—
ıils were all prepared by a committee called the
of the Articles. The older acts are remarkable
ir Spartan brevity—a dozen of them could be
ə the title of an act of the reign of George III.;
ıodern malt or glass duties' act would occupy
ə Scottish statute-book down to the reign of
ı II. It was a practice derived from the civil
ıt acts of parliament became repealed by disuse,
ıary practice. Since the union with England,
ıament of the united kingdom has legislated for
ı, and to the acts so passed the above doctrine
ı apply. The description of the passing of an
ın above, applies to acts relating to Scotland as
ɔ those which apply to England. It has been felt
ect in Scotland, that in many cases acts appli-
ɔ the whole kingdom are drawn by English
, who do not apply their provisions to meet the
ities of Scottish practice.

earliest superior tribunals in Scotland, were
he parliament, as the king's great council, or a
ee of it, acting with the delegated powers of the
body. There was likewise, as in England, a
usticiar, whose authority was vast, and not very
ined, especially in criminal matters. Committees
ament were, in the fifteenth and the beginning
ixteenth century, sometimes formed into regular
of justice, in which, however, a certain degree
ination could not be avoided. In 1532, the pre-

sent Court of Session was constituted, on the model, it is believed, of the parliament of Paris. The chancellor, whose principal duties disappeared at the Union, was chairman of this body. It consisted of fifteen judges, including a president, who was chairman in absence of the chancellor. In 1830, the number of judges was reduced to thirteen; and about the same time, the authority of some other tribunals, the chief of which were the Courts of Admiralty and Exchequer, was transferred to the Court of Session. It consists of two divisions, which are separate tribunals. Some of the judges also act as individual judges in courts of their own, in which capacity they are termed "lords ordinary." An ordinary case, on coming into court, is discussed before a lord ordinary, from whose decision there is a reference to one of the divisions of the "Inner House," as it is termed, where the remaining judges sit collectively. From them there is an appeal to the House of Lords. There is no such conventional distinction as that between law and equity known in Scotland, and hence English lawyers, who are apt to measure all other systems by their own, absurdly enough speak of the Court of Session as a court "both of law and equity." Besides the usual adjudication of litigated cases, there are two very useful descriptions of action peculiar to this court. The one is called an action of "declarator," which a person who is puzzled about any difficulty, and is afraid of committing an illegal act, may bring, to have the law as to the point declared, and his course of action made plain; another is called a "multiplepoinding," which may be raised by a man having money in his hands which more than one person is claiming, that he may know to whom he can legally pay it. Trial by jury was not, until very lately, added to the jurisdiction of this court. It is limited to certain descriptions of cases, and is far from popular.

The principal criminal court is the Court of Justiciary, consisting of seven of the judges of the Court of Session, who sit in Edinburgh, and commission some of their number to hold circuits in the country. Almost all offences in Scotland are prosecuted by a public prosecutor; there is no grand jury, and the ordinary jury, consisting of fifteen, give their verdict by a majority. The criminal law is partly statute, partly founded on long usage. There are many offences which, by this latter portion of the law, are punishable with death, if the prosecutor do not restrict the extent of punishment to be awarded, which he now does in almost every case except murder. The sheriffs, or local judges of counties, have important judicial powers, both civil and criminal. The former extends to every description of dispute regarding property, except what refers to land. The powers of these judges have lately received extensive additions, especially in matters of insolvency and bankruptcy. They do not employ a jury, except in criminal cases, in which their power of inflicting punishment does not exceed imprisonment. They hold small-debt courts, where questions of debt to the amount of £8, 6s. 8d. are summarily decided. The magistrates of royal burghs enjoy powers somewhat analogous to those of sheriffs. The authority of the justices of peace in Scotland is not so extensive as it is in England.

There has latterly been some indications of the assimilation of the legal usages of Scotland to those of England, and it is highly desirable that an end should speedily be put to all existing diversities.

THE FRENCH CODES.

The ancient laws of France were a mixture of the civil, feudal, and canon law. Partly they were the doctrines of the authorities on the civil law, and partly they were the ordinances issued by the various monarchs. By far the greatest portion, however, in bulk, consisted of the peculiar feudal customs of the various provinces. In these the feudal system was sometimes retained in so high a state of purity, that the collections of provincial customs are esteemed excellent authorities on the subject. But it was not merely in each province that there was a local custom. The power of the crown,

great families, who thus constituted a species of professional nobility. The decrees of these bodies were often baffled or reversed by the royal authority, exercised in the well-known form of *lettres de cachet*. These alterations of the decisions of the courts, however, were performed not as a judicial revision, but by the simple authority of the king; and thus the parliaments, being subject to no judicial control or responsibility, adhered but slightly to fixed rules of law, and often acted according to their own will and discretion. The jury, even so much of it as may have existed under the old feudal form, had entirely disappeared, and proceedings were conducted in secret. Criminal investigations, instead of terminating in a conclusive trial as in England, were protracted through a lingering succession of written pleadings and secret investigations, from which the accused could never calculate on being free. The torture was extensively employed; but in the general case, only when there was as much circumstantial evidence as would justify a conviction in this country.

The whole of this system was swept suddenly away before the tide of the revolution, but amid the troubled times that succeeded, it was long ere rulers could find peace and leisure for the erection of a substitute. In 1800, Napoleon appointed a commission to draw up a project of a civil code. The project when prepared was circulated for comment and suggestion, and was afterwards, along with the observations made on it by the different courts of law, discussed in the council of state and the tribunate. Thus was formed the *Code Civil*, or civil code of France, more generally known by the term *Code Napoleon*, which was applied to it under the empire. Nearly at the same time, and in the same manner, was framed the *Code de Procedure Civile*, or code for regulating the form of process in civil actions, and specifying the jurisdictions of the various courts. Being a subject more connected with technical detail, and involving less of general principle than the civil code, its provisions were left almost entirely to the arrangement of the lawyers. Besides the technical directions in which lawyers are almost wholly interested, there are in this manual many which concern the ordinary procedings of citizens at large, such as directions for the order to be taken regarding the effects of a deceased person, &c. This code is generally accompanied

into books and sections, the pa
are numbered straight on from
arrangement which gives peculia
Thus there are in the civil co
numbered paragraphs. In a cou
of the law is so gigantic as it is
highest interest to mark the pr
grand effort at simplification.
in this country, it is a much e
law of France on any particula
is living under. If an English
tion, his answer involves refere
decisions, and statutes innumera
case, the answer of a French la
ference to such a paragraph of

The French codes adopt th
Roman law and many of its
striking deviation from the prev
the present systems of other cou
rules respecting succession. T
equal shares of the parents' pro
of land or moveables; and if
children, illegitimate children m
is limited in the disposal of his
can only bequeath the half if
child, and the third if he h
somewhat similar are to be fo
with respect to moveable prope
The effect which the extensi
occasioned by this law, has ef
in France, is a subject of gr
economists. In the mercantile
provisions unknown in this co
for hypothecs or securities hel
or merchandise, and societies
partnerships in which certain
responsible for the obligations
extent of their whole property,
ners who advance money are
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in the criminal law effected dur
sanctioned by the code of inst
to which Napoleon was much c
finally settled, bore more re
tish than to the English form,

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re gold than it does to procure silver. They give
h larger amount of iron in exchange than of silver,
se the labour of procuring silver is much greater
the labour of procuring iron.

d hence we see that when men exchange with
other, the exchangeable value of any thing will
general, as the labour which it costs to procure
fence the *cost* of any thing, or its *natural price*,
labour which is necessary to produce it.

s, however, is liable to accidental and temporary
ation. Sometimes a much larger quantity of a
product is created than is wanted. In this case,
wner, in order to induce persons to buy, will offer
a less price than the cost, because he had rather
at a loss than lose it altogether. When, in
ase, the supply is too abundant, the exchangeable
will fall. On the other hand, when not enough of
iven product has been created to supply the wants
community, the buyers, rather than be deprived
will overbid each other, and thus will pay more
the natural price: that is, when the demand is
ally great, the exchangeable value will rise. These
s of fluctuation can, however, exist but for short
s, and the constant tendency of the exchangeable
of any thing will be towards the cost of the labour
sary to create it.

Production.—Production is the act by which we
o any object its particular value, or its particular
ity to gratify human desire. Man can neither
nor annihilate any thing; he can only change the
of that which is created. We cannot create iron,
can extract it from the ore; we can then change
steel; we can change a lump of steel into knife-
s. Each of these acts, by which a particular value
en to the iron, is called an act of production.
substance in which any value has thus been
, is called a *product*.

ital.—The term capital is applied to the material
it has been changed by labour into a product; to
struments with which this change is effected; to
eans of subsistence by which the labourer is sup-
l; and also to the product which results from the
ation of labour to the raw material.

Exchange.—Every man finds it for his interest to
exclusively at one kind of production. Thus, we
at every man has his own trade or profession.
man wants a great many other things besides
which he produces himself. The shoemaker pro-
shoes; but he cannot eat, or drink, or clothe him-
ith shoes. Hence he must exchange his shoes
se articles which he needs. Every other man is
condition of the shoemaker. And hence we see
n immense amount of exchanges must be made
day in every civilised community.

ribution.—Not only does every man work at a
ular trade—it is commonly the case that a great
men must labour together in order to complete a

particular product. Every penknife, nay, every pin, goes through the hands of several workmen, and receives a portion of its value from every one of them. When the product has been created, every one is entitled to his share of it. The principles by which this division of the profits is made, is called by political economists *distribution*.

Consumption.—Every product, after it has been created, is put to some purpose. Sometimes it is used for the creation of some other product; as wheat, when it has been raised, is used for the purpose of making flour; or, again, it may be used for the simple purpose of satisfying human desire, as bread, when it is eaten, is used to appease our hunger. The destruction of values in this manner is called *consumption*.

The whole subject of Political Economy may therefore be comprehended under these four divisions—Production, Exchange, Distribution, Consumption.

PRODUCTION.

Production is the act by which we confer upon any object a value which it did not possess before; or it is the application of *labour* to *capital* for the creation of a product.

OF CAPITAL.

Capital is the *material* which is to be united with industry for the creation of a product, or the *instruments* which are used in the act of production, or the *necessaries and conveniences* by which the health of the labourer is sustained. Sometimes the labourer finds the material in its native state, as the miner finds the ore or the coal in its native bed; most commonly, however, he receives it from some one who has already conferred upon it some value, and it is his occupation to confer upon it another.

The forms of capital are as various as the different occupations of men. The *material* of the farmer is seed, manure, animals, &c.; that of the manufacturer, cotton, wool, iron, leather, &c.; and that of the merchant, the various substances in which he traffics.

The *instruments* with which these producers labour are very various. The farmer uses ploughs, harrows, and carts; the manufacturer, saws, hammers, and spinning and weaving machines; and the merchant, ships, boats, locomotives, &c.

Besides these, all men require for their *sustenance* food, clothing, shelter, and the various conveniences of life. Viewed in this light, all capital may be included under one or the other of these classes.

Changes of Capital.—Inasmuch as the labour of men is so universally employed in changing capital having one form of value to capital having another form of value, capital must be incessantly undergoing changes. It is no matter how many changes it undergoes, if its value be by every change sufficiently increased to pay for the labour which it cost to effect it.

Increase of Capital.—If a given material undergo a change by which its value is increased, then there is an increase of capital equal to the *difference* between its former and its present value. I say equal to the *difference*, because, in the creation of one value, another value is always destroyed, and we are benefited, therefore, only by the superior amount of value which we possess over that which we have consumed to produce it. Thus, the farmer consumes seed, manure, labour, sustenance, in the production of a crop. He has changed one kind of capital for another, and he is enriched by as much as his crop is of greater value than all that it cost him to produce it.

Capital which is undergoing change by which its value is increased, or which is yielding an annual income, is called *productive capital*. That which is lying idle, and neither producing any thing nor increasing in value, is called *unproductive capital*.

Money forms a small but very important part of the capital of all civilised nations. The use of money is to enable us the more easily to make exchange other. That it forms but a small part of a country, is evident from the fact, that part of the wealth of any individual consi What is true of all the separate individu munity, must be true of the whole comm tively.

Of Fixed and Circulating Capital.—That which the owner derives profit by changing place, is called circulating capital; while instruments which he uses to produce this from the use of which he derives profit capital. Thus, the wheat and the manures of the wool and raw cotton of the manufactur circulating capital; the ploughs, harrows, land of the one, the machinery and build other, are their fixed capital.

There is a constant tendency in a prosper tion of society, to change circulating into fi The farmer sells his wheat, and with the pr more land and better tools, or erects better barns. The manufacturer, with his profits e enlarges his manufactory; and thus, in the p society, vast sums are annually invested in ma manufactories, and various means of practica ment.

The beneficial result of this tendency is o Fixed capital is but slowly consumed, and wealth of each generation is transmitted to and, year after year, a country becomes b better provided with the means for furnish with all the conveniences of life. The supe veniences which we enjoy in this country, w enjoyed by the aborigines who long ago occup owing entirely to the amount of fixed capi covers the soil. It is thus that the results o dustry of men are transmitted to their poste that the men of any one age are enabled to rea tage from the skill and good conduct of the m ages who have gone before them.

OF INDUSTRY.

Of the Nature, and the different Kinds of Human In

Industry is human exertion of any kind u for the creation of value.

If we consider the different kinds of value is in the power of man to create, we shall human industry may be employed in three ways. Matter may be changed in its *elements* as it is by the farmer when he plants seed an increase; or in its *aggregate form*, as wh penter fashions a piece of furniture out of a its *place*, as when a sailor carries it from one to another. The ultimate design of all human employed in production is to effect either o other of these results. They are frequen minated agricultural, manufacturing, and c industry.

It is evident that every one of these kinds is absolutely necessary, in order to promote nience and happiness of man; and also that could prosper without the aid of the oth there no agricultural labour, every body w Were there no manufacturing labour, every be chilled to death. Were there no labour transporting commodities from place to pl could enjoy any convenience except what h duced himself; that is, though, with great suffering, a few persons might live, yet they w few, and these few would be miserably poor. see how unwise it is for any jealousy to ex the farmer, the mechanic, and the merchan equally necessary to each one, and each o sary to both the others.

But some men are neither mechanics, n nor merchants; they are students, or philo lawyers, or physicians, or clergymen. A men, however, are necessary to society, in

be generally obvious, and are as well entitled to rewards as any other useful class.

The Increase of the Productiveness of Human Industry by the means of Natural Agents.

the productiveness of human industry, we mean nount of product which a human being, in a given can create. Thus, if a farmer by one day's labour ise one bushel of wheat, the productiveness of his is equal to one bushel; if he can, with the same , raise two bushels, the productiveness of his is equal to two bushels. If a cotton-spinner can ne pound of cotton in a day, this is the amount of oductiveness of his labour; if he can spin ten s, this is the amount of it.

r, it is evident that the greater the productive- f labour, the better is it for the industrious person or all his neighbours. Every one knows that tter for a farmer to own rich than to own poor because, with a year's labour on the one, he can a much larger crop than on the other. It is, wer, better for him that his neighbours also have rich than poor land, because the richer land, the larger quantity of *their* products will e able to give him in exchange for *his* products. e only difference between rich and poor land is, ich land renders industry *more productive* than and.

e case is the same with the other modes of industry. ho spins with his fingers, without any machine, s very unproductively; that is, in a day he can but a very small product. He who labours with ning-wheel, labours much more productively; that h a day's labour he can create a much larger nt of product. And he who uses a still better ine, called a spinning-jenny, labours yet more pro- ely; that is, in a day he can create twenty or a ed times as much product as he could with a ng-wheel. In every case, as the productiveness our increases, both the labourer and the commu- ity benefited, just as a farmer would be benefited changing a poor soil for a rich one. In both cases nefit is the same; that is, with a given amount our he creates a larger amount of product, he es better wages for his labour, and at the same the community obtains his product at a cheaper

d hence it is that mankind have been, from the st ages, endeavouring to invent means by which oductiveness of human labour may be increased. he condition of mankind is improved, from time e, just in proportion as these endeavours have ade successfully. Every one knows how much forts of an industrious mechanic in this coun- eed those of an uncivilised Indian. And the ce is owing to the fact, that the labour of the e *much more productive* than that of the other.

e there are two ways in which the productiveness an industry may be increased: these are, first, *of natural agents;* and, secondly, *division of*

tural agent is, as its name imports, an agent of or any quality of things which we are able to use to accomplish our purposes. Thus, it is of the of wood, when set on fire, to give off heat, and the natural agent which we use for the purpose king our food. It is of the nature of steam, when to expand, and, when suddenly cooled, to con- and hence steam is the natural agent by whose e expansion and contraction we create the force we need to propel boats or machinery. So it is nature of water, when falling down from an ele- to acquire a very considerable force; this force natural agent which we use to turn the wheel of So, the peculiar quality of the magnet is a l agent. The various qualities of medicinal are also natural agents, though used for a diffe- rpose from those mentioned above.

l or a *machine* is any instrument by which we are enabled to avail ourselves of the qualities of natural agents. Thus, an axe is an instrument by means of which we make use of the cutting power of iron. A steam-engine is an instrument by which we make use of the expansive and contractile quality of steam.

In political economy, the principal use of natural agents is either to create or to use power or force, or, as we sometimes call it, momentum. Thus, if a man wishes to row a boat, or chop wood with an axe, he must have strength or power with which to do it. The more strength or power he has, the more work he can do. Thus, a man can do more work than a boy, because he has more strength, or power, or force, to do it with. Now, natural agents are capable of exerting this power, and, by means of machinery, we can direct the manner in which it shall be exerted.

The natural agents which we use for this purpose are of two kinds, animate and inanimate.

Animate natural agents are beasts of burden and draught, as the ox, the horse, the ass, the camel, the elephant, &c.

That these very greatly increase the productiveness of human labour is evident. Every one knows how much more land a farmer can cultivate by means of a pair of horses, than he could by his own unassisted strength, and how much more wheat a man can transport from one place to another with a waggon and horse, than he could carry on his back.

The inanimate natural agents are, as we have said, the various qualities and powers of things by which we are enabled to accomplish our purposes. The most important of these are gunpowder, wind, falling water, and steam.

Gunpowder is used in war, in hunting, and in the blasting of rocks. For the latter purpose it is very valuable in the construction of canals, railroads, &c.

Wind is used as a stationary agent in the common windmill; and as a locomotive agent in the propelling of vessels on the water. It is cheap, and for some purposes very valuable.

Falling water is used very extensively as a stationary agent in almost all works where great power is required. Almost all our nails are made, our wheat is ground, and much of our cotton is spun and woven by water.

Steam, however, is now used the most extensively for the various purposes of the arts, as it possesses many advantages over every other agent. It is capable of exerting any degree of force, from the least to the greatest; it may be used as a stationary or a locomotive power; it may be used on land or on water, and it may be placed perfectly under human control. Its only disadvantage is its expensiveness. Steam is now used to spin the finest thread and the stoutest cable, to weave muslins and to hammer anchors, to propel the largest vessels on our rivers and on the ocean, to draw our carriages, to saw and plane our boards, and, in fact, to accomplish almost all the purposes which require either great or unremitted force.

Inanimate agents are in general preferable to animate agents, in most of the purposes for which power is required. The reason of this will be easily seen. For instance—

1. *They are cheaper.* A steam-engine of a hundred horse power will cost less than the horses necessary to do the labour which it performs, and will cost much less to keep it at work.

2. *They labour without cessation*, while animals require much time for rest and refreshment.

3. *They are safer.* They have no passions, and hence may be governed by fixed and certain laws. A steam locomotive is neither liable to run away nor be frightened.

4. *We can use them without the infliction of pain*, while animals frequently, of necessity, suffer in consequence of hard labour or rapid driving.

5. They are capable of much more rapid action, hence there is a great economy of human time.

But this is not all. Men are able not only by the above means to create force, they are also able to de-

In this manner much human labour is saved, or a given amount of labour is rendered much more productive. Were it not for this quality of type-metal, every type must be cut by the hand. This would render types and books very expensive. But now we have only to cut a mould into the form that we wish, and, if the melted metal be poured into it, the type is formed, by cooling, into the precisely corresponding figure. In this manner a single workman can make several hundred types in an hour.

There are various other qualities of things which we use in like manner, but their number is so great, that we have no room here to describe them. By reflection, every person may easily furnish himself with as many examples as he pleases.

Of Division of Labour.

In the preceding sections, we have seen that the productiveness of human labour may be greatly increased, *first*, by discovering the various qualities of things, or, specially, those qualities by which we are capable of creating force; and, *secondly*, by those various contrivances by which the force thus created may be directed and applied. We have one other source of increased productiveness yet to consider—it is division of labour—and its results are, in many cases, as striking as any that have been noticed.

Division of labour, in general, means employing one individual upon one kind of labour, instead of employing the same individual upon several kinds of labour. If we reflect, we shall see that this circumstance forms one of the great differences between savage and civilised nations. A savage does for himself whatever he requires to have done. He is his own philosopher, inventor, and operative; his own farmer, butcher, baker, shoemaker, tailor, carpenter, &c. And the result is, that he is ignorant, hungry, shelterless, almost naked; and that he continues, age after age, without making any improvement. On the contrary, civilised men divide these various occupations, so that one man labours wholly in one, and another man labours wholly in another employment; and the result is, that civilised men, without labouring more than savages, easily obtain convenient shelter, clothing, food, and all the necessaries of life.

But still more. Every one who observes any mecha-

by the same individual, he mu
tools, or pass from the use of
use of another. This occasions a
performing the same operation
tools with the same adjustmen
purpose perpetually. This is a
the adjustment of tools requi
expense, as, for instance, in the
furnace. If the smith heat it, a
pose of doing some other work,
after he leaves it, as well as tha
again to its proper temperature

3. When men confine themse
tion, they acquire a degree of d
acquired in no other manner.
sionally makes nails, will make
thousand in a day; while a bo
any thing else, will make upw
three hundred in a day.

4. Division of labour suggest
and machines, by which labour
more productive. As soon as a
into its simple processes, it i
contrive some way in which to
all of these processes by a ma
required great skill to construc
nails before the process was
divided into rolling, cutting, and
paratively easy to construct ma
of these processes may be accom

5. There is great diversity in
performing the various parts of
of the operation require grea
course of education; others
women, and even by children,
Some require labour worth fou
others can be executed by labo
a few pence per day. Now, wi
all the processes must be perfo
highest price. By division of la
can employ just the amount and
that he needs. This greatly red
tion.

The effect of all this is seen
at which almost all the articles
obtained. For instance, suppo

Again, the practicability of division of labour
is upon the capital of an individual or of a coun-
A man must have accumulated some considerable
it of capital before he can carry on division of
in any occupation. For instance, suppose that
vision requires the labour of ten men, he must
materials and tools sufficient to employ them
Nor is this all: suppose that it take ten days to
his product, he must have material sufficient to
y them during all this time, before he receives
ing in return for that product. And if it take
night more before he is able to sell his goods
btain a fresh stock of material, he must have a
l sufficient to employ them during this time also.
for this reason that manufactures do not com-
with the first settlement of a country, but they
always be delayed until capital accumulates, be-
hey can be successfully established.

Division of labour can only be carried on where
is sufficient demand for a product to consume it
as it is manufactured. If it would take *ten* men
nufacture pins by division of labour, but only so
pins could be sold as could be made by *one* man,
our could not be divided. This, however, de-
upon several other circumstances. For instance,
mand depends upon the number and the wealth
mmunity. There is a larger demand for hats
wn of ten thousand inhabitants than in a village
hundred inhabitants. There is a greater demand
s among a thousand rich men than among a
nd beggars. This is another reason why division
ur and manufactures naturally increase with the
, and age, and wealth of any country.

Hence we see why roads, canals, and railroads
beneficial to the industry of a country. By re-
the cost of transportation, they render the price
commodity as low at one hundred miles distance,
equently was before at ten miles distance, from
e of its manufacture. Hence they increase the
of consumers, and, by thus increasing the de-
render practicable the division of labour in cases
before it was impracticable.

n, it is evident that demand must be greatly af-
by the cost of the article manufactured. Costly
are purchased only by the rich. But the rich
a small part of the community. Hence the
for such articles is but small. It is those
that every one wants, and that every one can
at create such a demand as will enable them
ade at the cheapest possible rate. Hence we
division of labour, and the reduction of price
occasions, benefits the poor much more than it
rich. I do not suppose that jewellery, trinkets,
es, are much, if at all, cheaper than they were
or thirty years ago; while cotton cloth, hard-
oollen goods, and all the manufactured necessa-
life, have fallen in price from one-half to three-
. This is an immense benefit to those of us who
ged to spend our money for necessaries and
s, and have none to spend for trinkets.

The Benefits of Increased Productiveness of Labour.

bject of labour, as every one knows, is to pro-
e means of happiness. A farmer labours to pro-
heat, rye, fruits, &c.; a cotton manufacturer to
e clothing, and a shoemaker to produce shoes,
of any other case.

, the greater the productiveness of labour, the
are the means of happiness which the individual,
ven amount of labour, produces. If a farmer
a year's labour upon a rich soil, his labour is
productive than if he expended it upon a poor
at is, with the same labour, he produces in one
o hundred bushels of wheat, and in the other
ly two hundred bushels. Every one sees that
an advantage; and every one would rather own
ndred acres of good soil than one hundred acres
soil.

a if a poor soil can, by means of manure, or in any other manner, be changed into a good one, the result is the same as if, by means of improved tools, a farmer were able, by one day's labour, to produce twice as much as he could produce before.

Now, this principle applies just as much to a manufacturer, or any other labourer, as to a farmer. Suppose a carpenter, when he first commences learning his trade, could not make more than one table in a week, his labour would be very unproductive. As he becomes more and more skilful, he can make a table in less time; and at last, when he can make a table in a day, his labour is six times as productive as it was before, and he has the means of procuring for himself six times as many comforts with the same amount of labour. If he be able, by means of a turning-lathe, or a steam-engine, or by division of labour, to make two tables a-day, his labour will be still more productive, and he will be able to procure for himself a greater amount of conveniences.

So, if men spun by hand and wove by hand, were this possible, a man could produce but very little thread and very little cloth. His labour would be in the lowest degree unproductive. But if he invent a spinning-wheel and a loom, his labour becomes at once vastly more valuable, and he can produce ten or twenty times as much as he could before, and he is able to provide himself with a much greater portion of the necessaries and comforts of life. If, now, we furnish him with a spinning-jenny and a power-loom, his labour will be still more productive; and as he creates, with a given amount of labour, a greater amount of the means of happiness, a larger portion will fall to his own share, that is, he will be both richer and happier. And the facts show that such has always been the result. The labour of the Western Indian or the Eastern Hindoo is without machinery and without division, and it is of course very unproductive. Hence *he* is very poor. The whole wealth of the Indian is a blanket and a bow and arrows, and the whole wealth of a Hindoo is a pot of rice and a cotton cloth. How different is the condition of the labourer in this country!

And we also see that it is not beneficial merely for one individual to increase the productiveness of his labour; it is beneficial to the whole community that the sum-total of industry should be as productive as possible. Would it not be a benefit if the crops of corn, and wheat, and cotton, and rice, the products of the fisheries, of the mines, and of the manufactories, during the next year, should, with the same labour, be doubled, so that we might, by a day's labour, procure twice as much bread-stuffs, fuel, clothing, and every necessary and comfort of life, as we are able to procure at present? Now, the whole effect of the increased productiveness of labour, by means of machinery and of division of labour, is to bring about precisely such a result.

And yet more—the benefit of this change is specially realised by the labouring classes. A nobleman in Great Britain is by no means as much better off than his ancestor, as a common labourer in England now is better off than a serf at the period of the feudal oppression and ignorance. The rich and powerful in all countries always have an abundance of comforts and luxuries. They are but slightly benefited by improvement in the productiveness of labour. It is the labourer who is chiefly benefited, because every improvement brings within his power some convenience which was before out of his reach. What difference does it make to a man worth a hundred thousand a-year whether coal costs one or five pounds a-ton, and cotton cloth fourpence or two shillings a-yard. At either price he would be able to procure an abundance. But to the man who is worth but fifty or a hundred pounds a-year, the difference of price is a matter of immense consequence; inasmuch as at one price he would be able to supply himself abundantly, and, at the other price, he would be able to supply himself but very scantily, if he were able, indeed, to supply himself at all. Hence we say that improvements in machinery, by which the productiveness of labour is increased, are specially for the

benefit of those of us who are obliged to work for our living.

The only objection to all this is, that, by increasing the productiveness of labour, we diminish the demand for labour, and that hence labourers are thrown out of employment. This deserves a brief consideration, inasmuch as it has led not only to erroneous views in theory, but to practical wickedness in action.

To settle this question, let us examine the facts. What are the manufactures which now employ the greatest number of workmen, and in which the number of workmen has, within the last twenty years, the most rapidly increased. I think that any one will answer, the cotton and the iron manufactures. But if we were asked in which branches of manufactures has labour-saving machinery been most extensively introduced, we must also answer, the cotton and the iron manufactures. Or we may come to the same result, if we compare the linen with the cotton manufacture. Machinery has been introduced only in a small degree into the manufacture of the one, and very extensively introduced into that of the other. The consequence is, that the labourers in linen are very poorly paid, and are diminishing in number, while the labourers in cotton are well paid, and are every year rapidly increasing. These facts are abundantly sufficient to teach any person what is the natural result of the use of machinery.

The reason of this is easily seen. Suppose that only 10,000 yards of cotton *could be used* in a given district, and it required 100 men to make them. If these 10,000 yards could be made by fifty men, it is evident that fifty men would be thrown out of work. But suppose that, by this change in the mode of labour, the cotton cloth which was sold at two shillings could be sold at one, so that *twice the quantity* could be used, and 20,000 yards were wanted, there would be a demand for just the same number of workmen as before, so that the workman would be just as well off as he was before. But suppose that, when cotton was at two shillings a-yard, only those worth two hundred pounds a-year could afford to purchase it, while, now that it is at one shilling, those worth only one hundred pounds per annum can become purchasers. The number of persons in a community worth one hundred pounds a-year, is more than double that of those worth two hundred. Hence this class alone would create a demand which would place the labourer in as good circumstances as he was before. But to this must be added the demand of those worth a hundred and twenty, a hundred and fifty, and two hundred pounds; and it must be remembered, that each one of these classes will now use more cotton cloth than the class of two hundred did formerly. To this must be added the fact, that by the reduction of price, cotton cloth may be used for many purposes to which it could not formerly have been applied. All these circumstances taken into the account, will show us how it is that the greater the productiveness of industry, the greater will be the wages of labour; and, that the more extensively labour-saving machinery is introduced, the greater will be the demand for labourers.

But this is not all. While the labourer is thus benefited in his wages by the use of machinery, he, and every other person, is equally benefited in another respect. We have seen that, by this means, every product is rendered cheaper. Every one knows how much cheaper woollen and cotton goods, carpets, books, and most of the necessaries of life are, than they were a few years since. Not only are they cheaper, they are also better and more elegant. Calicoes, crockery, the various fabrics for wearing-apparel, paper-hangings, and many other things, may be procured at a very reasonable price, and of great beauty of appearance. These benefits the labourer shares with the rest of the community. Hence his share of the advantage is doubled. His wages are raised, and the price of what he purchases with them is reduced. The rich man receives no higher interest for his money than before, that is, his wages remain the same; his only advantage is, that, with the same money, he can procure what he wants at a cheaper rate.

OF CONDITIONS OF SOCIETY FAVOURABLE TO PRODUCTIVENESS.

It is essential to the promotion of indust man should enjoy the reward of his labour man must be allowed to labour as diligently and to use all that he has gained, provided it it innocently.

For these purposes it is necessary that al perty in a community be divided. By this is that every thing belong exclusively to some the first place, the land must belong to partic sons, otherwise it will not be tilled at all. this principle strikingly illustrated in the rud country inhabited by savages, and also in th most *commons*, wherever these exist. No on any particular interest in the cultivation of a a country occupied by savage tribes, no par vated. Were any one to cultivate a patch of g he might have his right to the crop disputed, the benefit of his labour. It is impossible fo exert industry under such circumstances. common, again, no one has so great an inte induce him to keep the ground in order; he pieces of ground generally become nearly w useless. The principle may be still more f illustrated. Suppose a cherry tree growing in row, and no one's property in particular. N be at any pains to protect the young fruit of from the birds by means of network; and wo which the birds spare will be taken before it idle children. There will be no public bene kind from such a cherry tree. But suppose become somebody's property. It will then for and protected; and the fruit in due tim ripe, and become a source of enjoyment as will go.

It is not enough that property be divided; of property must also be *protected*. By th property, we mean the right which any man what is his own. Thus, if a man make a ta his own materials, he has a right to keep that to sell it, or to use it as he will, and no one h to take it from him, or molest him in any w the use of it. And it is the same thing if bought the table, or procured it in any honest by exchange.

Now, it is the business of every man in th nity to see that no man interferes with any ot property. This is what we call the protecti right of property. The whole community h mitted this power to the legislators, judges, are called the government. Hence we see tha special business of government to protect i from violation of the right of property.

The right of property may be violated by in as in the cases of robbing, stealing, house-brea Were this allowed, no one would labour at al no one would labour for the sake of seeing his plundered and wasted by thieves and robb case is the same when property is plundered stroyed by mobs. If a man would not labou sake of seeing his property destroyed by one would not labour any the more for the sake his property destroyed by five hundred robbe

Hence it is clear that the industry of a co pends very greatly upon the goodness of its la faithful execution of them. If laws allow of of property, all men would soon become thieve of labourers, and as thieving produces nothi would soon be nothing left to steal, and all wou And if the laws be not put into execution, the as well be no laws, and the result would be th

But governments themselves sometimes vi right of property. This is the case, when, by will of the government, the property of the i is taken for any purpose whatsoever. Such is

nay despotic governments. When this is the case, ple becomes at once dispirited and indolent. Who d labour on the soil through a whole summer, if he that he was liable to have his harvest seized in anmun by a tyrant, as soon as it was fit to be ared? Thus we see that the most fertile regions of arth, when under such a government, lie almost tivated; the inhabitants are few, and these few xtremely poor. Hence the importance of a good itution of government.

t suppose that every man be allowed to gain all he can, he must also be allowed to *use it as he will*. is evident, because no man will be industrious to property, unless he be allowed to use it for the otion of his own happiness in such way as he likes

man's property are his faculties of body and mind, s means of industry, and his property or capital. necessary, in order to render men industrious, they be allowed, provided they do it honestly, to both of these as they choose.

r instance, the labourer should be allowed to work y trade or as many trades as he pleases, to work y place that he chooses, and to change his occupa- whenever he supposes it can be done for his ad- age; he should also not be obliged to change it s he believe such change will be for his benefit. It be supposed that every one understands his own ess better than any one else can understand it for and, therefore, to oblige him to make any change rary to his own wishes, will do him an injury, and jury which is wholly without excuse.

ed the same is true of *capital*. Every man that any thing has a right to use it as he pleases. No whether an individual or a government, has any to direct him in the manner in which he shall em- it. A farmer has a right to raise just such a as he pleases; and a merchant to buy and sell he chooses, and at such prices as he sees fit. He ask too much, and may impose upon his neighbours, f he do so, he will soon punish himself. And though ets wickedly, yet, as we cannot control him without fering with the right of property, it is much better him alone, than, for the sake of regulating *him*, to ess *all the other men* in the community, and thus, the sake of punishing *one* bad man, to injure *a ired* good men.

nother condition of society favourable to produc- ess, is the intelligence of the people. If they be rant, they neither are sensible of the importance dustry, nor know how to exert themselves advan- ously. It thus becomes of great consequence that hould be, to a certain extent at least, enlightened nowledge.

EXCHANGE.

e have thus far considered production, and the s by which, with a given amount of labour, pro- on may be increased. But were this all, the hap- s of man would be but in a small degree increased. e a man to make every thing for himself, or, what e same thing, have nothing but what he could himself, though his labour were ever so produc- he would enjoy but very few comforts. Though a er, instead of raising a hundred bushels of wheat, d raise three hundred bushels, yet if he did not for his own consumption more than a hundred, ould not procure any thing else with his addi- l two hundred, he would be no better off than e, but might as well suffer this additional product t upon the ground. His additional labour would him no additional advantage, and hence there d be no encouragement to labour. But as soon e is able to exchange this two hundred bushels than he can use himself for some other things ch he wants, his additional labour brings with it rresponding reward; and additional productive-

ness of labour brings with it additional comforts and conveniences. Of so great advantage to mankind is exchange. And hence it will be seen that the prosperity of a country, its wealth, and its industry, are very much in proportion to its facilities for exchange. Thus we see that no country can easily grow rich without good harbours on its coast, good roads or canals in its interior; and that its advantages are greatly increased when it is so fortunate as to be penetrated in many directions by navigable rivers. We shall now proceed to consider the nature and principal laws of exchange.

OF THE FACTS IN OUR CONSTITUTION WHICH RENDER EXCHANGE UNIVERSALLY NECESSARY.

1. It is a well-known fact that labour is necessary, in order to render any thing valuable. Every thing valuable around us will, if we reflect, be seen to be the result of the labour of some one. And we have also seen, that he who has laboured has, by means of his labour, acquired a right to the value which he has created. By this we mean that he has a right to do with it just what he pleases.

2. It is also the fact, that every man seems disposed to pursue some one kind of occupation in preference to another. One man chooses to be a sailor, another a farmer, another a mechanic, another a manufacturer, and another a merchant. And we also see, that these different men seem each one to be the best adapted to that kind of business which each one has chosen. And we know that, by the principles of division of labour, there will be a much larger amount of product created when every individual has a separate employment, than when every man is obliged to divide his time between a dozen employments.

3. But while every man is thus intended to labour at one particular employment, and to produce one particular thing, every man needs for his comfort and convenience *a thousand* things. Now, as he labours to produce only *one* of these *thousand* things, he must procure all the rest by exchange; hence, in order to gratify his desires, he must make nine hundred and ninety-nine exchanges. By so doing, he is able, by labouring, to produce one kind of value, and then by exchange to supply himself with every kind of value that he wishes. In this manner men are rendered happier, inasmuch as every one is enabled to pursue the occupation that he likes best, and, at the same time, to procure whatever he needs for his happiness. And, moreover, as by this mode labour is much more productive, every one procures a much larger quantity of what he desires by the same amount of labour.

We thus see, that in order to secure our physical happiness, there is really as great a necessity for *exchange* as there is for *production*. This rule applies equally well to nations as to individuals. No nation is able to raise within itself one-half of the productions necessary to its convenience. It may have, however, peculiar advantages for producing some one or two articles of general necessity. These are commonly called its staples. Now, it is for the advantage of a nation, as well as of an individual, to devote itself to the production of that which it can produce in the greatest abundance and with the greatest ease, and then to procure by exchange with other countries those articles which it needs, but which *they* produce with greater ease and in greater abundance. The benefits in this case are of the same nature as in the other. Each nation labours in that department of production that it chooses, and at the same time, by so doing, it is enabled, in greater abundance, to avail itself of the productions of every other country.

Since there is so great an amount of exchange which must of necessity be made, it is evident, from what we have said on the subject of division of labour, that there will be a great saving of labour, that is, the labour of the whole society will be much more productive, if some portion of the community devote their time to the business of conducting exchanges.

sale merchants.

Retail merchants purchase in large quantities of importers or wholesale merchants, and sell again to consumers in such quantities as they may desire. In doing this, they greatly benefit all parties. The wholesale dealer could not afford to break open a barrel of sugar to sell a pound, unless he charged a very high price for his trouble. The consumer could not afford to purchase a bag of coffee, or a barrel of sugar, or a whole piece of broadcloth. And, besides, a man is rarely a judge of the goods he wishes to purchase, and it is much better for him to use the skill of a good judge, than to attempt to judge for himself.

The *wholesale merchant* imports in large quantities from abroad, or purchases in large quantities from the manufacturer at home, and sells to the retail merchant, who, as we have said, sells to the consumer. The importance of this kind of labour in exchange is as evident as the other. The retail merchant could not import from abroad, in so small quantities as he wishes to purchase, unless with much additional expense. One wholesale merchant could import as much as would supply a large number of retail merchants, and with but very little more labour than would be demanded of every individual who only imported the small quantity which he needed for his own sales.

The interest of the merchant requires that he should buy as cheap as possible, that he may sell as cheap as possible; for the cheaper he sells, the more numerous will be his customers. Hence the wholesale merchant will export what he can export cheapest, will exchange his export where he can do it the most to his advantage; that is, where he can procure what is most wanted at home, and where he can do it at the lowest rates. So, the retail merchant knows that the better his goods are, and the cheaper the rate at which he sells them, the greater will be the number of his customers, and the greater the number of exchanges which he will be able to make in a year.

Hence we see that the real interest of the merchant, and that of the whole community, are the same. The retail merchant can become rich in no other way than by purchasing as cheap as he can, that he may be able to sell as cheap as he can; for if he sell dearer than his neighbours, no one will buy of him. And so

labour will, by competition, be
every other capital, no more th
recompense.

While this, however, is true
true that the exchangeable value
to sudden and limited variation
of supply and demand. In such
article will bring more, and at
the cost of the labour necessary
however, never can continue lon
equalise and compensate for eac
do not at all invalidate the genera
men exchange, they exchange on
for labour.

2. The exchanger, or merchant,
on a product, he only saves lab
producer. The article which a
changed in any manner by his l
penknives, or calicoes, or sugar,
articles just as he receives them
ticles which he purchases to e
them. Nevertheless, he is still
of great advantage to the commu
mer, who wanted a scythe, oblig
to the *scythe manufacturer*, and
his scythe would cost ten times wh
The case is still stronger, if he
Sheffield or Manchester to procu
he wanted. Hence, although th
himself add any new value to his
the cost at which they must oth
procured, he does as great serv
as those who actually produce.
sons to produce twice as much
to produce otherwise, and this is
community as though he were th

3. Hence, it will be seen that
changes are made, the better it wi
and for the community. It will
merchant, because he thus, with th
a greater number of exchanges
thus makes a greater annual pro
smaller advance upon each exc
is better for the *community*, bec
vance which he charges, the le

great effect in increasing the desire of men to
e their condition by means of exchange; and
ey are thus induced to labour more industriously,
r to procure something to offer in exchange for
ey want.

roductiveness of industry.—It is not enough that
be desirous to exchange; he cannot gratify that
nless he be able to offer something to the other
hich will be accepted in barter. If I desire a
f flour ever so much, I can never obtain it, unless
le to offer to the flour merchant something which
accept in exchange for his flour. Thus, every
ws that a rich man is able to make a great many
changes in a year than a poor man. A labourer
ns high wages can make many more exchanges
r than a labourer who earns but low wages. A
buys many more articles of comfort, that is,
nany more exchanges, in a productive than in
oductive season. And thus, in general, every
t see that a rich country makes more exchanges,
ternal and external, than a poor country; a
ous, than a declining country; and the same
in a period of successful than in a period of
ssful industry.

ral character.—Men do not always exchange
oducts at the same instant, but one or the other
ly waits some time for the return which he is
e in exchange for his product. This gives rise
ility to dishonesty. And, besides, where men
onest, they will frequently cheat each other in
ntity or the quality of the article which they
exchange. Now, where these liabilities exist,
l greatly lessen the number of exchanges. No
o can help it, will have any dealings with a
Hence, when men are disposed to be rogues,
es will diminish. Laws are made to oblige
to act like honest men; hence, when laws are
l are well administered, exchanges will be more
than when they are unjust, partial, and unfairly
tered. But every one must see that on the
haracter of a people, not only their personal
, but also the goodness of their laws, depends.
ve observe that morality, using this word in its
tended sense, is of the greatest importance, not
success in production but also to success in
es.

he same principles apply to our exchanges with
rs. If we treat them justly and kindly, and
em all reasonable means for enforcing their
hey will come and exchange their products for
preference to going to another country where
uld be less favourably treated. Thus we shall be
procure, on the most favourable terms, whatever
l from other nations, and in this manner reap
est reward for our industry and moral character.
, exclusive policy, is as self-destructive a policy
ns as it is for individuals.

If this be the case, we shall easily determine
e the causes which naturally diminish the fre-
of exchanges, or produce a stagnation of busi-

desire for any particular product diminish, the
for it will diminish; hence, those who produce
hose who keep it for sale, will be unable to sell
s the changes in fashion frequently destroy, in
time, the entire demand for an article, which,
ago, was in vogue. Or the diminution of the
nce of a country will, in due time, produce the
fect on exchanges generally.

diminution of production during a single year
duce the same effect for that year; and oppres-
avy taxation, or any thing which interferes with
ion, or diminishes the productiveness of human
r, will accomplish the same result perma-

hence it is that, as a nation becomes vicious,
or oppressive, such moral deterioration must
a diminution of exchanges, in the same manner
errupts all other kinds of industry. And thus

success in exchange, as well as success in production, depends much upon the intellectual and moral character of a people.

From what has been said, it will be easy to perceive in what manner a government can best *promote* the business of exchange. It is by promoting the intelligence and virtue of a people—by giving every facility for the increase of the productiveness of industry—by encouraging, in every suitable manner, the establishment of roads, canals, railroads, and means of internal communication—by rendering its harbours and coasts as easy of access as possible—and by giving to foreigners every reasonable facility for the transaction of their business when they come amongst us.

And we see, also, what measures are, in their nature, most likely to *diminish* the number of exchanges. Such are duties on imports, or, in other words, adding to the price of every foreign commodity offered in exchange, obstructing the means of intelligence, refusing the necessary facilities for constructing means of internal communication, imposing unnecessary disabilities upon foreigners, neglecting the condition of harbours and coasts, and, in general, any course of measures by which the article offered in exchange is rendered more expensive, or by which the person who comes among us for the purposes of exchange, is denied any reasonable means for seeking his own interest or happiness.

[Of exchange by means of money, metallic and paper, a full exposition is presented in the sheet entitled, COMMERCE—MONEY—BANKS, to which we refer.]

DISTRIBUTION.

We have thus far considered the mode in which wealth is, in the first instance, produced, and in which, in the second instance, the producers are enabled to exchange it with each other.

It is, however, commonly the case that an article of production is not the result of the labour of one man alone, but of several men united. Thus, several men successively unite in producing a barrel of flour. One owns the land, another sows the seed, another reaps the harvest, another owns the mill in which it is ground, another manages the mill for the owner, another makes the barrel in which it is contained, another transports it to market, and another sells it to the consumer. Now, every one of these must be paid out of the barrel of flour when it is purchased by the consumer; that is, the price of the flour must be so *distributed* among them all, that each one has his just share of the proceeds. The principles on which this is to be done are considered by political economists under the head of DISTRIBUTION.

As all value is the result of capital and industry, it is manifest that we shall comprehend the whole subject, if we treat of *Wages*, or the price of labour, and *Interest*, or the price of capital. Inasmuch, however, as *Capital in Land* is in some respects peculiar, we shall consider it separately, under the head of *Rent*, or the price of land.

OF WAGES, OR THE PRICE OF LABOUR.

Of the General Principles by which Wages, or the Exchangeable Value of Labour, is regulated.

We have already seen that exchangeable value is the cost of any thing, influenced moreover by the effect of supply and demand. We shall therefore consider, 1st, The cost of labour; 2dly, The effect of supply and demand upon it.

I. Of the cost of labour.

Of simple labour.—By simple labour we mean that labour which may be performed by any healthy person without any, or with very trifling, previous education.

1. But it is evident that no person can continue in health without food, clothing, and shelter. We cannot, therefore, procure the labour of any living thing without furnishing those necessaries which are required for

different climates. In warm climates, where vegetable food is principally used, and where very little expenditure is required either for fuel, clothing, or shelter, wages would naturally be lower than in cold climates, where the expenditures must of necessity be so much greater. This is, however, equalised by the fact, that warm climates enervate the system and relax the physical energies, so that, while you pay a very small sum for a day's work, you receive a very small amount of labour in return.

Such is the natural cost of simple labour, and it will be generally found that by this rule that cost is practically adjusted. Whatever may be the condition of the country, the lowest class of labourers earns but simply sufficient to procure the ordinary necessaries of life for the parents and the children.

Of educated labour.—But for most of the occupations of life some sort of education is required. No man can be a carpenter, or a blacksmith, or a jeweller, or a physician, or a lawyer, or a clergyman, without being educated for the particular calling which he intends to pursue. Now, this education is expensive. It costs both time and money. If a man wish to practise a trade or a profession, he must spend several years in preparation or apprenticeship. During the whole of this time he receives no wages, and frequently is obliged to pay for tuition. When he has acquired the necessary skill, he is able to perform more valuable labour than before, and he is entitled to a higher compensation. This compensation would naturally reasonably be adjusted by a consideration of the time and capital which he has expended in his education. The longer the time and the greater the expense of his training, the higher ought to be his wages. It is evident that the wages of such labour must be always greater than those of simple labour, otherwise it will not be produced. No man will spend money in educating his son for a calling which will yield him no higher wages than he could earn without any education.

Such are the principles by which the cost of labour is adjusted. Wages must always be sufficient to support the labourer, and to remunerate him for the expense which must be incurred in acquiring the skill

raised one grade. The price of la
raised throughout the whole commu
of the people will be meliorated, a sm
children will die, and a larger nu
will be reared. If this addition
deficiency, labourers will immigrate
countries, where the proportion of
less.

And, on the contrary, where the p
to labour is small, there will be a lar
sons desirous of labour that can find
this case there will be a competitio
for work. They will underbid each
price of labour will fall. The case m
paragraph will then be reversed; t
the labourers will be rendered wor
either emigrate or starve. Many
and sickly persons, will die of the d
upon hardship and exposure. In
number of human beings will be
supply of labour is adjusted to the
and then the price of labour, or
again.

Hence we see that, in order to sec
of a country, it is necessary that
increase with its population. No m
the present condition of a people, if p
faster than capital, or if capital be
cially, if it be diminishing, there m
season of great distress among the
There will be more labourers than ca

Hence we see the great importance
and national frugality. He who sq
perty in useless expenditure, is an
means by which the honest labour
subsistence. Thus, also, of nations.
that wastes property in wars, or in
unprofitable consumption, is diminis
the country, and scattering the re
toils of the people have accumulate
thus spent, is the destruction of so m
by which the labourers of the coun
trained. Suppose a nation be worth

abourer and his own personal moral habits—durs
ncrease of population chiefly depend. And, as we
before stated, the supply of labourers is as the in-
se of population.
he same principles in the main govern the supply
dicated labour. If the wages of such labour are
cient to pay for the expenditure of time and capital
ssary to the acquisition of the education, such
ur will be produced; that is, men will turn their
and talents in this direction. On the contrary,
the remuneration of such labour is inadequate,
will not prepare themselves to perform it, and
e already educated will devote themselves to some
r occupation. The supply will thus be reduced so
correspond with the demand.

Circumstances which affect the Rate of Wages in particular Instances.

We have seen that a given amount of capital is neces-
in order to furnish employment for an individual
urer. Hence any given amount of capital directed
ny one business, will only furnish employment for
rrespondent number of labourers. And hence, if
portion of the capital now employed in any one kind
usiness be withdrawn and devoted to any other
of business, there will follow a change in the rate
ages in that employment. The wages in the busi-
from which capital is withdrawn will fall; those in
business to which capital is directed will rise. Such
e result of all legislative enactments which affect
employment of capital.
ut, besides this more general cause, the price of
or in the several professions is affected by various
ial circumstances. For instance—
By the ease or difficulty, the pleasure or pain, of
employment, and by the estimation in which it is
by the community.
When any trade is in its nature unpleasant, men do
like to practise it. Hence, when we wish to employ
n, we are obliged to overcome their reluctance by
ier wages. When the performance of the labour
leasant, many persons are willing to engage in it,
hence, the supply being greater than the demand,
price of the labour falls accordingly.
. By the skill required in performing the operation.
his results from two causes. First, the greater the
required, the smaller will be the number able to
form the operation. Thus the supply will be small.
, secondly, the longer will be the time spent in
ning to perform it, and hence the greater wages
the labourer be entitled to receive.
. The confidence reposed. In many employments,
h reliance must be placed in the moral character,
courage, the discretion, and forethought of the agent.
, inasmuch as these qualifications are not frequently
nd united in the same individual, the number of
able candidates for such employments is small.
nce, as the supply is commonly less than the demand,
wages in such employments are high. And, inas-
ch as those who have a large amount of capital at
s, find it for their interest to procure such labourers
ny price, the wages of such persons will always be
ch higher than in cases when no such confidence is
ecessity reposed.
. Constancy or inconstancy of employment.
ome kinds of labour furnish incessant employment;
ers furnish employment only at intervals. Yet, in
one case as well as in the other, division of labour
uires that the labourer devote his whole time to his
iness. Hence, in the latter case, it is reasonable
t, for the performance of a particular operation, he
uld receive a larger remuneration than in the for-
r. We pay more for riding a mile in a hackney-
ch than for riding a mile in a stage-coach, because
employment in the one case is constant, and in the
er inconstant. A large portion of the time of the
ver of a hackney-coach is consumed in waiting for
sengers. For this time we must pay our portion
enever we employ him.

OF THE PRICE OF MONEY, OR INTEREST.

Why we pay Interest for the use of Money.

The first question which arrests our attention in the consideration of this subject, is the following:—Why should the use of money have any price at all? As I return to a man the same value which I borrow of him, why should I pay him any thing for having kept it during the interval? This question we shall first attempt to answer.

Every man who labours at any regular employment, possesses two qualities which render his services of value—these are *strength* and *skill*. The first enables him to execute simple labour, or labour of the cheapest kind; the second, when united with it, enables him to execute educated or higher priced labour. But, in order to perform the latter, he requires tools and materials, that is, capital. Without these, he could perform only simple labour. Of what use would be the skill of the blacksmith, without a forge and iron? or that of the carpenter, without tools and wood? or that of the spinner, without a spinning-jenny and raw cotton? Without these, they would be all reduced to the necessity of that labour which could be performed with their naked hands.

Suppose now that I am a blacksmith, and own a forge, tools, and iron, with which I am daily employed, and thus earn the wages both of labour and skill. Were I to lend them to another man for a week, and carry a hod during the mean time instead of working at my trade, and thus lose the profit of my *skill*, he who thus borrows them of me should surely remunerate me for the use of them. Suppose he borrow them for a year, he should pay me for the same reason. And if I have the money with which he can purchase them for himself, and I lend it to him, he should pay me just as truly for the money as for the tools and capital, because if I had not lent it to him I could have established another forge, which I could have made profitable to myself.

And here we may remark, in general, that when we speak of the loan of money, it is in reality not money but other capital that is wanted, and for which we pay interest. Were a tradesman to keep the money which he borrows locked up in his drawer, it would be worth nothing to him. It can be only of use when it is exchanged for something else, which, being united with labour, will yield a profit. The fact is, that every one, as soon as he procures money, exchanges it for tools, or materials, or merchandise. Every one sees that these ought to pay interest, because they are the means of accumulation. Just as much should the money pay interest which is exchanged for them, and for which the owner of the money would have exchanged them, if he had not lent it to another

Now, it very frequently happens that the ability to labour is possessed by men who have no capital upon which to employ it. And, on the other hand, capital is frequently possessed by men who have neither the skill nor the ability to labour. In such a case, it is manifestly for the interest of both parties to form a copartnership, the one party furnishing the labour and skill, and the other furnishing the capital. By this means both parties are benefited. The labourer earns the wages of labour and skill, instead of those of simple labour; the capitalist derives an income from his property without diminishing it, instead of being obliged to live upon the principal.

Now this takes place in two ways, both the same in principle, although the mode in which the arrangement is made is dissimilar.

The first is the case of wages. Here there is virtually a partnership formed between the capitalist and the labourer. The one furnishes the tools and the material, and takes all the risks of the operation, and divides with the labourer the profits, which he pays in the form of wages. These are generally agreed upon at the commencement between the parties, and are the same whether the operation be profitable or unprofitable. This, however, is not always the ca whale-fishery, the crew of a vessel receiv proportion of the profits, in the place of reg and of course their remuneration is grea according to the success of the voyage.

The second case is that in which the la sumes the risk, receives all the profit h borrows his capital from the other, agree him at a stated rate for the use of it. Th monly the case in the borrowing and lending If I purchase a shop and stock it with employ another to keep it for me, paying h tomary wages, I act in the first-mentioned m I lend him the money by which he purchase and stock, and he trades on his own risk, interest on the amount borrowed, I act in t manner.

It is the latter case that is to be consider place. Here the borrower uses the capi lender for his own advantage, and that adv equal to the difference between simple labour a united with skill. Did he not thus employ th the lender would employ it himself. It is just that he should pay for the advantage gains, and of which he, by thus gaining it, de owner.

Of Various Circumstances which affect the Rate of

We have thus far endeavoured to show tha that is, interest, should justly be paid for th capital. But we find that the interest of different in different countries at the same t in the same country at different times, and in country and at the same time it is differen rent kinds of investment. To the circumstan give rise to these differences let us now attend

I. The rate of interest will be affected by th tiveness of capital.

When a capitalist, by the use of his own ca readily make ten per cent. per annum, he will charge a higher interest upon it than when scarcely make five per cent. per annum. It evident, on the other hand, that the borrow willing to pay a higher interest in the former the latter case, because he will be able to make profit by the use of it. Hence, when land is ha and productive, interest will be high, becaus vestment of capital and labour in land and m will be exceedingly profitable. The same re rates in other cases.

Whether the productiveness of capital be small, supply will affect the rate of interest the supply is small, there will be a competiti the borrowers, and the lender will receive th possible share of the profits, that is, interes high. When capital is abundant, there will b petition among the lenders; interest will fal the lender will receive the smallest shar profits.

Both of these causes tend to produce the of interest so commonly observed in new Land is cheap. It is in its highest state of All labour bears a very high price, for the labour are imperatively demanded; and, at time, capital is scarce, while the demand for i sant. As a country grows older, these circu change, and the interest of money gradually f

II. Secondly, another circumstance affecting of interest is the *risk* of the investment.

When a man parts with his property and in the power of another, there is at least a ch he shall never see it again. This risk shou be added to the price which is paid for the use Thus, suppose that the fair compensation for of capital in one case were five per cent., on position that it was perfectly sure; if, in anot there were a risk equal to two in a hundr being totally lost, this two per cent. for the ri be added to the five per cent. for use, and th

al one of which is, that he is entitled to his per-
f whatever profit may arise from the operation.
shares are called *stocks*, and are transferable at
oment; the holder, whoever he may be, receiv-
interest, or, as it is called, the *dividend*, at the
r times of payment.

prices of these stocks rise and fall with the
f interest which the undertaking pays. If any
purchased at one hundred pounds a-share, pays
gular rate of interest, it will sell for a hundred
, and then it is said to be *at par*. If it pay
the regular rate of interest, and is perfectly safe,
sell for two hundred pounds a-share, and is then
to be one hundred *per cent. above par*. If it pay
lf the regular rate, it will sell for but fifty pounds
e, and is said to be fifty per cent. *below par*. And
ny other instances.

ks, like any other investment, vary in price with
gree of risk to which they are subjected. If a
ay a high dividend, but yet is liable to be entirely
ed by casualties, it will sell for less than another
g lower interest, but of which the principal is
. Thus insurance and steam-boat stocks, though
ay large dividends, never bring a correspondent
because of the losses to which they are unavoidably
d. On the contrary, though an investment at
t pays but little, yet is expected at some future
o be very valuable, it will bring a high price, on
t of the anticipations which are formed concern-
It is by such circumstances that the rise and
stocks are determined. They are constantly for
large cities, and their prices will rise and fall
e hopes and fears, the anticipations and appre-
s, of the buyers and sellers.

OF THE PRICE OF LAND, OR RENT.

have remarked, in the preceding section, that
or any other investments, will bring a price in
rket in proportion to the annual interest which
derived from them. A stock, let it have cost
may, which produces six pounds a-year, if six
nt. be the regular rate of interest, pays the inte-
a hundred pounds, and it will sell for a hundred
. If it yield twelve pounds, it will sell for two
d pounds, and so in any other proportion.

, the same remark applies to the rent of land.
cre of land, after paying the ordinary expendi-
r tillage and carrying the produce to market,
ld three pounds profit, it will sell for fifty pounds,
ing the rate of interest to be at six per cent. If
fit that may be derived from it be more, it will
more; if less, it will sell for less. And the same
le applies to land, whether it be used for tillage
dwelling-houses.

is the general principle on which the rent of
pends. It is, however, to be remembered, that
ductiveness of land depends upon two circum-
, *fertility* and *situation*.

rtility.—Every one knows that there exists great
ce in the fertility of land. With the same cul-
n, an acre, in some situations, will yield twice or
imes as large a harvest as an acre in other situ-
Some lands require annual manuring, others
need to be manured at all. Now, inasmuch as
n acre in the one place, you can derive three
s much income as from an acre in the other, it is
able to suppose that the former would sell for
imes as much as the latter.

situation.—The products of land, however, are
and it costs a very considerable portion of their
greable value to transport them to the market.
ice of transportation is always to be deducted
he farmer's profit, and tends, by so much, to
the value of his land. It is on this account that
ds, canals, and other means of internal improve-
confer so great a benefit upon a country. They
the disadvantages of situation by reducing the
transportation.

ring these principles in mind, it will be easy to

perceive in what manner rents will be adjusted in any given country. When a territory is at first settled, the land may be had for nothing. Every one being at liberty to choose for himself, the most productive lands, that is, the most fertile and those most favourably situated, will be at first selected. These will bear no price and will yield no rent, because they may be had for nothing.

When, however, these are all occupied, and others are needed, the land of the next inferior fertility will be put under tillage. As soon as this is done, the first class of lands will yield rent, and will command a price. Suppose lands of the first class to have produced fifty bushels to the acre, and lands of the second class but forty bushels. It will be as cheap for the settler to hire a farm of the first class, at a rent of ten bushels to the acre, as to have a farm of forty bushels to the acre for nothing. When the lands of the second class are all occupied, those of the third class will come into request; and as soon as these are tilled, those of the second class will also command a price and will produce a rent. At the same time, the price and the rent of lands of the first class will be doubled. In this manner, the rise of price and of rent in lands of various grades of fertility will go on increasing, until all the land worthy of cultivation is occupied.

As the common market for agricultural products is on the sea-coast, it might be supposed that the price of land would gradually diminish as you remove into the interior, until its disadvantages of situation reduced its value to nothing. This would be the case were it not for various counteracting circumstances. Among these are the following:—

1. The fertility of land, in many instances, increases as we retire from the coast. This fertility counterbalances the disadvantages of situation.

2. As a country advances in civilisation, its means of internal communication improve, and the inconvenience of situation is more and more removed.

3. As a country becomes settled, towns and cities grow up in the interior, and thus bring a market to the farmer. He is as much benefited by the bringing of the market *to him*, as he would be by the removal of his land to the market.

4. Sometimes a new invention in the arts transforms at once the conditions on which the progress of a country depend. Such was the result of the introduction of steam navigation on the waters of the Mississippi and its tributary streams. This invention opened this whole valley to the Atlantic, and gave to the towns on the banks of the river almost the advantages of a position on the sea-coast.

Besides these general circumstances, on which the price of land depends, some others may be mentioned which are well worthy of notice. Man is endowed with a love for the beautiful, as well as with an intellectual and moral nature, and he very commonly takes these tastes into account in choosing for himself a place of abode. Hence, land which is handsomely laid out and tastefully arranged, whether in a village or in the country, will sell for a higher price than that which possesses none of these recommendations. A farm or a dwelling-house, in a well-cultivated neighbourhood, where the people are virtuous and benevolent, will find more purchasers, and of course will sell for a higher price, than one of equal fertility where the inhabitants are ignorant and vicious, quarrelsome and malicious. Hence we see that were men to consult nothing but their own interests, they might very reasonably devote more care than they commonly do to embellishing their grounds and supplying themselves and their families with the means of intellectual and moral improvement.

Land, however, is not always used for the purposes of agriculture. It is used in cities and towns, merely to afford space for the erection of storehouses and dwellings. In this case, of course, its fertility is of no consequence, and its only value depends upon its situation. Hence, its price will be determined merely by *this* circumstance. Those portions which afford the greatest facilities for business, will comma
est rent; and those which recede from th
mand a lower and lower rent, until they
so far from the centre of business, that th
valuable for dwelling-houses. The value
gradually diminishes, until situation is but
of the price, and the land may profitably
gardening. Here the element of fertility
into the computation. The land immedia
large city, is thus commonly occupied by
supply the market with recent vegetables a
a small distance beyond, it is devoted to
purposes of agriculture, and becomes what
perly denominated the country.

Having thus considered the general prin
which the distribution of the profits of any
is effected, we shall close this section by a
illustrating the manner in which these pri
rate in an individual instance.

We will take, for the sake of this illustra
of bread. A farmer in the West Riding of
devotes his land to the raising of wheat.
land, raises his crop, and sells it to the mi
price which he receives for his crop repays
cost of his own labour, the wages and sup
workmen, the cost of manures, the rent of hi
interest on all the capital which has been inv
he own the land, he receives the rent him
hire it, he pays it to the landlord. The mil
the grain, manufactures it into flour, transp
Hull, and sells it to the flour-merchant. T
which he sells it, repays him whatever he ha
farmer, and remunerates him for the cost
the flour. This must be sufficient to enab
pay his various workmen, to remunerate hi
own labour and skill, the use of his capital,
and tear of his mill, and the cost of transp
Hull. What he has paid the transportation
be sufficient to remunerate him for the use of
boats, the men and horses that have been em
navigating them, the expense of tolls, and th
on all the capital which is employed in the
The flour-merchant buys the flour, and keep
storehouse to supply his customers. He
to a sum sufficient to repay him for what he
miller, and also to interest on his investment,
neration for his labour and skill, and the cost
room. The baker purchases the flour of
merchant, and makes it into bread. He ch
his bread sufficient to repay him for what he
flour-merchant, and for all his labour and e
turning the flour into bread. Thus, when we
a loaf of bread, we pay our proportion of all t
ral expenses. And these several amounts, in
instances, are distributed according to the ru
we have laid down. All the labour which
employed is paid according to its value and
all the capital according to the use and risk
had been subjected. The various items of co
production of any article of use, may be easily
in a similar manner.

CONSUMPTION.

OF THE NATURE AND DESIGN OF CONSUMPTI

We have thus far endeavoured to show in w
ner the various objects for the gratification
are *produced*, in what manner they are
among the producers, and in what manner th
which each one of the producers is entitled, is
to each of them.

But we know that all this is done with ref
another object. Every thing that is of an
designed to be used, and after it is thoroughly
in familiar language, *used up*, it is worthless.
previous operations only prepare the way for
tion, and it is consumption that creates the
for their being incessantly repeated.

of bread become mouldy through neglect, its
e as thoroughly consumed as if it had fallen into
e the moment after it had been baked. Vege-
matter decays—animal matter putrefies—the
s are corroded; and thus consumption is conti-
going on, by which the values which we create
e destroyed, unless we watch over them with
nual vigilance. Childish, imbecile carelessness is
h to render any man poor, without the aid of a
positive vice.

Consumption is either *rapid* or *gradual*. The con-
tion of wood for fuel is rapid. The consumption
axe with which we chop it, or of the fire-place
ich we burn it, is gradual. But the one is going
certainly as the other; and hence, in estimating
penses, if a man wish to estimate them correctly,
e must be taken into the account as well as the
. If a man build a house and occupy it for ten
, the gradual consumption has materially dimi-
d its value. If, now, at the close of this period,
imate the value of the house at its original cost,
ll greatly overrate his property. The same is true
niture, and of every thing else which we use.

need scarcely be remarked, that the annual con-
tion of an individual is the total amount of values
he consumes, whether in his business or in his
. Unless his annual production be sufficient to
e the whole of his annual consumption, he will
debt. By as much as his annual production ex-
his annual consumption, he will be growing
. Hence, the object of every thrifty man is to
r this excess as great as possible.

Of the Design of Consumption.

design of consumption is easily seen. Inasmuch
sumption is the destruction of some value, it is of
ature of an infelicity. We never therefore con-
, but with the expectation of procuring some
er good than that which we annihilate. This good
e of two kinds. First, we consume one value for
ake of procuring another and better value; or,
dly, we consume a value for the sake of gratifying
appetite or desire, that is, for the sake of increas-
ir own personal happiness.

Consumption for the sake of the increase of value.
this manner the farmer consumes seed, manures,
r, and tools, that he may thus be enabled to pro-
a harvest. The manufacturer consumes raw
n, labour, machinery, &c., in order to produce
. The mantua-maker consumes calico, thread,
es, and labour, in order to produce a new dress.
thus, in all the various occupations of men, mate-
of every kind, and labour, are consumed for the
of creating some article of use, or convenience, or
y.

Consumption for the sake of the gratification of —Some of our desires have respect to our life,
ealth, and comfort. Such are the desire for food,
ing, shelter, and the various conveniences by
the heat of summer and the cold of winter may
odified. Others are merely for the gratification of
nses, without any regard to the benefit which we
e beyond that of simple sensual pleasure. Such
e desires for the luxuries of the table, of dress,
ages, and for those modes of living which are de-
ed by fashion. Some of our desires are gratified
tellectual pleasures, and others by the pleasure of
good. It is not necessary that I should enume-
ll the various modes of expenditure. In general
consume the value which they appropriate, and
at remains is the gratification which they produce.

OF THE DIFFERENT KINDS OF CONSUMPTION.

sumption is of two kinds, *individual* and *national*.
idual consumption is of two kinds, first, for the sake
reduction, and secondly, for *gratification*.

Individual Consumption for the sake of Reproduction.

design of the consumer in this case is the repro-
n of capital, in some form different from that

in which the capital is consumed. He would gladly produce without consumption, were it possible. But to do so is contrary to the law of his being. Consumption is necessary; but if a man be wise, he will consume as *little* as possible. Production is his remuneration, and if he be wise, he will render this as *great* as possible. His whole gain is the amount by which his production exceeds his consumption. The greater this excess, the greater will be his profit. The rule by which he should therefore be governed, is *to create as large a product as possible, by the consumption of as small a value as possible.*

The consumption of a producer is of two kinds—of capital and of labour.

Of Consumption of Capital.—The principles which should govern us here, are, I suppose, the following:—

1. The consumption of capital should be as *small* in amount as is consistent with the creation of the desired product. A shoemaker, who habitually cuts up a side of leather so carelessly that leather sufficient for one pair of shoes is wasted, will never grow rich. The farmer who sows two bushels of seed when one would have answered as well, loses the half of his seed. In China, sowing is always done by drilling instead of broadcast. It has been computed that, by this method, as much grain is saved as would feed the whole population of Great Britain. The useless expenditure of fuel in Britain is enormous. It is supposed, and with good reason, that not more than one-tenth of the heat of the fuel employed is rendered available in a common fire-place.

2. Capital of no *greater value than is necessary* should be employed to create the desired product. Thus, it is for the interest of every producer to ascertain in what manner he may be able to accomplish his purpose, by the consumption of the least valuable materials. The merchant inquires before he imports a product from a foreign country, with what export he can procure it at the cheapest rate. So the manufacturer, if he be wise, will keep himself informed of the progress of science and of the arts, that he may learn in what manner a cheaper article may be substituted for a dearer in the creation of his product. A fortune has frequently been realised by the discovery of a cheaper dye-stuff, or the substitution of a single cheaper material in the place of that ordinarily in use.

3. *Every utility* possessed by the material consumed should be rendered *in the best manner available.* Thus in an oil-mill the flax-seed from which linseed oil has been expressed is a valuable food for cattle. After the brewer has extracted the saccharine matter from barley, the grains, as they are called, are valuable for the same purpose. The tan bark, after the tanning matter has been extracted, is valuable for fuel. This economy of materials is very well illustrated in the manufacture of combs. In a well-conducted establishment of this kind, every part of the horn, the core, the body, the tip, the shavings, the fat, and the mucilage, are all turned to some available purpose.

Nor is this all. The values which are consumed should be *consumed to the very last.* Thus, in the working of a steam-engine it is necessary to evolve a great amount of caloric, and this is the most expensive part of the process. Now, economy demands that this caloric should be produced at the least possible expense, and that having been produced it should be used for every purpose that it can be made to serve. But every one must have perceived, by the flame which escapes from the chimney of a furnace, that a very large portion of the caloric evolved is absolutely wasted. A very great economical improvement has of late been made in some of the iron-works in Great Britain. This caloric, which was formerly wasted, is used to heat the air which is blown into the furnace. By this expedient a very great saving of fuel is accomplished.

Consumption of Labour.—As labour is expensive in the same manner as capital, economy teaches us to consume precisely as much of it as is necessary to accomplish our purpose in the best possible manner.

1. We should employ no *more* labour
sary. Too many labourers will always
other in idleness. When there is one ma
tell stories, the time of several others mus
in listening to them.

2. We should employ no *less* labour tha
When, from want of a sufficient number
one labourer is obliged to perform ser
work, we lose the advantage of division o
also expose ourselves to all the inconveni
fusion and disorder.

3. We should employ labour of no high
is necessary.

In any extensive operation it will be s
flection that some parts of the process r
skill and attention than others. Some
labour worth five or ten shillings a-day,
labour worth not more than eightpence or
a-day. It is of great importance in any lar
ment so to arrange the labourers that n
shall be employed at a higher price than
which he performs is actually worth. It i
to be remarked, that an error may exist of t
kind. It is as bad economy to employ too c
dear labour. In the one case, we lose by
high a price for labour, in the other, by th
tion of materials, which always results fro
of skill in a labourer.

4. The labour which we have paid for sh
performed. Time is money, to him at least
money for it. If it be wasted, his money
away; and by throwing away money no on
came rich.

In order to secure this result, several th
however, be attended to. The most importa
is, that he who employs labourers should
superintend his own affairs. No one will tak
interest in our own concerns as ourselves.
cannot be done, the establishment should be s
as to ensure full and vigilant superintend
every part, and under such responsibilitie
bring a knowledge of any delinquency to the
the competent authority.

Besides this, much time is saved by system
larity. When one is obliged to wait for anot
labour is of necessity wasted. Tools should a
in the best possible condition. This saves t
takes away one of the most common excuses
gence.

Consumption for Gratification.

Consumption may be conducted upon co
principles, or the reverse. It is clearly the i
every individual that he should not consume h
by expenditure upon objects which are to yie
pleasure or profit of any kind; that every thing
chases should be consumed as thoroughly as
and not in any respect wasted. In this way n
is lost. It is the same with national consum
expenditure. When the public money is spe
war, upon idle functionaries or sinecurists, or
kind of public work which is not to be either
or indirectly useful, the labour which produ
money is lost, or has gone in vain. It is no
such cases to say that money has been circula
employment has been given, and so forth.
not absolutely need to be kept working in any p
way, and every idle consumer of others' goods
own is a source of loss to the community. Th
could have been applied otherwise, and to a u
stead of a useless end.*

* We have to acknowledge ourselves indebted for
sketch of the science of Political Economy to an Ameri
It is abridged, with a few slight alterations, from a
entitled "The Elements of Political Economy, by Fra
land, D.D., President of Brown University." Boston,

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S'S

THE PEOPLE.

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LIFE-ASSURANCE.

for labourers is moderate; the command of the
r over the means of subsistence is consequently
iminished; and the population is observed to
with a moderate pace, varying in each country,
y as may be, according to the variations in the
r its support. Where these funds are station-
ve are taught to believe is the case in China, and
ertainly been the case in Spain, Italy, and pro-
ost of the countries of Europe during certain
of their history, there the demand for labour
tionary, the command of the labourer over the
f subsistence is comparatively very scanty, and
on is observed to make no perceptible progress,
retimes to be even diminished.
e second place, it is a fact equally notorious,
actual increase of the funds for the mainte-
f labour does not depend simply upon the phy-
acity of any particular country to produce food
r necessaries, but upon the degree of industry,
nes, and activity, with which these powers are
articular time called forth. We observe coun-
ossessing every requisite for producing the ne-
s and conveniences of life in abundance, sunk in
f ignorance and indolence, from the vices of their
nents, or the unfortunate constitution of their
and slumbering on for ages with scarcely any
in the means of subsistence, till some fortunate
troduces a better order of things; and then the
r of the nation being roused and allowed to exert
ith more freedom, more ample funds for the
ance of labour are immediately provided, and
on is observed to make a sudden start forwards,
e quite different from that at which it had be-
ceeded.
seems to have been the case with many of the
s of Europe during some periods of their his-
ut is more particularly remarkable in Russia,
olation of which, though very early inhabited,
extremely low before the beginning of the last
, and has proceeded with such rapid steps since,
larly since the reign of Catherine II.
also a fact that has often attracted observation
iew of the history of different nations, that the
f people occasioned by the great plagues, famines,
er devastations to which the human race has
casionally subject, has been repaired in a much
time than it would have been, if the population,
ese devastations, had only proceeded at the
te as before. From which it is apparent, that
e void thus occasioned, it must have increased
ster than usual; and the greater abundance of
ds for the maintenance of labour, which would
to the survivors under such circumstances, indi-
gain the usual conjunction of a rapid increase of
on with a rapid increase of the funds for its
ance. Just after the great pestilence in the
Edward III., a day's labour would purchase

difficult to obtain the means of subsistence for increasing numbers. He concluded that, at the utmost, the means of subsistence would be found, at the end of each successive quarter of a century, to have increased only at the rate of double for the first, triple for the second, quadruple for the third, and so on. Thus (said he) while population would go on increasing in a geometrical ratio, that is, as 1, 2, 4, 8, 16, 32, 64, 128, &c., food would increase only in an arithmetical ratio, that is, as 1, 2, 3, 4, 5, 6, 7, 8, &c.; and the consequence of an unchecked increase of the one, with the utmost possible increase of the other, would be that, when the population of the globe had advanced to 500,000 millions, there would only be food for 10,000 millions, or a fiftieth part of the number!

Considering, then, that there is a power and a tendency in human beings to increase so rapidly, and that, in point of fact, it is only in a few favoured spots that they do increase at such a rate, Mr Malthus concluded that there must be some counteracting agencies, or *checks*, in constant operation, in almost all communities, to restrain population at a lower rate of increase, or keep it stationary. In looking about to discover these checks, he satisfied himself that they were of two orders: first, there was the mortality produced by the effects of deficient food and of wicked passions; these he called *positive checks:* then there was the check produced by a prudent forethought in human beings, leading them to avoid marriage, on account of the little prospect of being able to rear a family in comfort; this he called the *preventive check.*

Arriving at this point, Mr Malthus and his followers proceeded to show how their doctrines were applicable for the benefit of communities. It was held that there could be no choice between the two kinds of checks: it was clearly preferable that population should be restrained by the preventive check.

"It is observed," says the *Edinburgh Review*, "in most countries, that in years of scarcity and dearness, the marriages are fewer than usual; and if, under all the great variations to which the increase of the means of subsistence is necessarily exposed from a variety of causes—from a plenty or scarcity of land, from a good or a bad government, from the general prevalence of intelligence and industry or of ignorance and indolence, and prudence, seem to be go
education, and every circumst
crease their independence and
ever the registers of a coun
disadvantages of situation, in
and the general prevalence o
disease and death over the
dential habits, there we alm
people debased by oppressio
and indolence. Wherever, on
try without peculiar advantag
liar capability of increase, the
mortality, and the prevalenc
dential habits above that fro
there we as constantly find a
blished, and some degree of in
with a taste for cleanliness an
rally diffused.

Nor does experience seem to
who think, that one vice at l
portion to the increase of the p
lation. Norway, Switzerland,
which are most distinguished
mortality, and the operation o
on marriage, may be compare
countries, not only with rega
worth and respectability of th
regard to the virtues which re
the sexes. We cannot, as Mr
mate with tolerable accuracy t
tity in the single state prevai
sions must be founded on gene
clearly in our favour.

We appear, therefore, to h
experience and observation, h
conclusions. From what we s
cannot rationally expect that t
ever be so completely subjec
enable him to avoid all the
which depend upon his own co
saying, that perfect virtue is no
an assertion by no means new,
to the present discussion. The
different nations, in the presen
from the tendency of the huma

uld require only fourteen years to reach an which would occupy the whole cultivable surhe globe. And as it is with wheat, so is it with the other plants on which we depend for food, or ourselves or for the animals which become us. So that, instead of there being any such ment between the natural possibilities of in- human beings and subsistence, as Mr Malthus on, there would appear to be a discrepancy in the contrary way; that is to say, subsistence to be capable of a much more rapid increase man beings.

-the Malthusians object—when the best soils are r cultivation, it is necessary to resort to the in- These require more labour and afford less re- There is therefore a *decreasing fertility* in the , while its population is always increasing. To replied by the opposite party, that, while worse se soils are in the course of being resorted to, nd better modes of culture are coming into ope- so as to make, perhaps, a third-rate soil capable ucing as much, by a certain amount of labour, ond-rate soil was a few years before, and so on other qualities, each being raised a degree in by every fresh effort of human ingenuity. In fact, the best British soils do now bear four he quantity of grain which they did a few cen- go, and millions of acres then deemed unfit for now produce as much by the same degree of as the best soils did at that time. Perhaps the is less satisfactory on this point than on any of

Malthusians, however, were said by their oppo- derive the strength of their case from limiting ews to a certain region. Their propositions, it mitted, might be true with regard to a popu- hut up in a certain small space, without any ion with what was beyond. But such a popu- never existed, and therefore the apprehended ver could take place. From the earliest notices of the human family, it appears to have been stom to spread abroad over the soil, when they hat food could be more easily obtained at a dis- om the natal spot than at the natal spot itself. iginal command given to man, *to increase, and , and replenish the earth*, is only in accordance at has always appeared as a tendency of the It is probable that, at the present time, not one-hundredth part of the earth's surface is ed, and not one-hundredth part of that culti- n a scientific or advantageous manner; while, hat has taken place, we may reasonably calcu- on the productiveness of the best cultivated eing yet greatly increased. With such an almost te field still before us, it seems absurd to be any anxiety as to the supposed tendency of the family to a too rapid increase. The superabun- of one district has only to go to some yet un- spot, or to exert ingenuity and industry to raise od from that which they do occupy, in order tain themselves in comfort. There is another whereby it may chance that a superabundant ion can support itself in the native locality, the productiveness of that locality falls short demand for food. If it possess advantages for ctures, it can exert its industry in that way, and ge the products for food raised in other coun- here subsistence exceeds population, and advan- r manufactures do not exist.

pponents of Mr Malthus combated his notion of on moral and religious grounds; and here, cer- the natural feelings of mankind greatly favoured ews. It was held as an impeachment of that sys- wisdom and benevolence seen throughout all na- at one of the most powerful tendencies of woman should be supposed to require being put under dute arrestment, upon the penalty of its otherding to misery in the individual and embarras the community. It was held that the prevent

to increase the industry of a nation? Contemplated thus, the tendency to increase would appear as a means, in Providence, to stimulate men and nations to the utmost possible exertions for the improvement of the materials placed at their command, so that no faculty of their being might lie waste, and no power of physical nature remain useless. Supposing this to be one of the final causes of the population principle, the preventive check of the Malthusians must, of course, appear as an impious attempt to control one of the Creator's most important designs.

OBSERVATIONS.

Such is an outline of the arguments which have been used on this famous question. It must, we think, be generally evident to new and dispassionate inquirers, that there is some truth in the views of both parties, but that the full and exact truth has not been stated by either. For arriving at this the means do not perhaps exist in the present imperfect state of statistical science; but in the mean time we may present a few considerations which have occurred to ourselves on this subject.

It appears to us to be only an assumption that there is every where a tendency to double the population every twenty-five years. We certainly see that such is the case in North America; but possibly this is considerably owing to temptations which are presented by the state of the country, labour being so expensive in all such regions, that a bounty may be said to be put upon the possession of a family. Perhaps the natural tendency is there drawn into something approaching to an unnatural state of activity.

Allowing that the increase is no more than what the natural inclinations of that people dictate, it is by no means clear that all nations possess natural inclinations in the same degree. We know that many features of human character are manifested in very different degrees in different nations; and it is therefore not unreasonable to suppose that there are also national differences in those feelings which lead to the increase of the human family. Individuals, it is well known, are characterised very differently in this respect. There are also obvious differences in families, the peculiarity being apparently hereditary. Why, then, may there not be differences also in nations? Perhaps the light to be

the name of the race so in that
contrary is, no doubt, often tru
progeny of the above-mention
great numbers, in all conditio
is the lot of some to be thus n
is not less true that many leav
selves, and that even whole cla
will ultimately shrink, like an
appear from the land, and all
apparent sufficiency of what is
existence. An illustration occ
believe, many of our readers v
within their own knowledge.
who died about thirty years ag
daughters, most of whom rea
members of this second genera
in comfortable circumstances:
rest have passed on to such pe
to be expected that children
any of them. And what is t
generation of this family? Or
two marriages. Thus showin
single pair may look large a
shrink at the second. We m
appears decidedly marked by
rage of a tendency to matrim
what is here wanted, the wri
mentioning a circumstance in
He can trace its course with tc
hundred years, and is pretty
the whole of that time, till th
preceding himself, no represe
more than one son to transmi
Local antiquaries are familia
lies once numerous in a certa
tinct. The present writer ha
his own family existed for m
of time above mentioned, in
the county in which that pl
now contain one person of the

Were it even admitted tha
rally equal in respect of the
still remains to be shown, tha
manifested in all social circun
with which the Malthusians h
the case, seems to us highly n

ommon people, reduced to a degree of poverty
admits of no hope, and exposed to a constant
tion of all the ordinary solaces of life, are driven
trimony as the only comfort in their power, just
ers in their condition are driven to the use of in-
ting liquors. The consequences lead to greater
ty, and greater poverty tends to increase the evil;
us will such a system of things go on until
racting agencies are brought into operation.
gencies are now at work in Ireland; wealth and
joyments are increasing; and we may therefore
peedily to see the advance of population in that
y less of a wonder than it has been.
nting the above arguments to be sound, it follows
e stationary condition of the population of old
ries is not necessarily to be supposed to be attended
ither the hardship of restraint or an extraordi-
ortality. If the wealth and ordinary solacements
ople in such circumstances are not in the way
g lessened, they may fairly be presumed to be
off in all respects as the rapidly increasing mul-
s of America.
ere we see the inhabitants of an old country
increasing, we must come to one of two conclu-
either that that country is in a flourishing state,
there is a kind of bounty put upon children, or
is in a state of such wretchedness that the inter-
of the sexes is the only attainable enjoyment.
regard to Ireland, we presume there can be no
of its liability to pass into the latter category.
e rapid increase of the English people in the last
ears will probably be the subject of a doubt. To
ine this question, it might be inquired if the in-
of the agricultural products and of the manufac-
industry of the country has been in an equal
and if labouring men, skilled and unskilled, can
tain for their wages as large a share of the com-
f life as formerly. Notwithstanding popular
ations to the contrary, we suspect this to be the
and consequently believe the increase of popula-
England to be, upon the whole, of a healthy
tion.

POOR-LAWS.

stages of society there has existed a class, em-
ly termed *the Poor*, composed of persons who,
the charity of their neighbours, would be nearly
ly destitute, being themselves unable, or all but
, to supply their own wants. It is easy to see how
as been and must be; for, from accidents in the
ion of the natural laws presiding over the birth of
als, some come into the world without the usual
f body and mind required for obtaining a suffi-
subsistence; the accidents of life deprive others
e use of their full powers; many reach an infirm
, without having laid up a store to help them
; the consequences of vice and error—of all those
se temptations which beset human nature, and
which no one is altogether safe—leave many in a
s state; finally, in the imperfection of all politi-
stitutions, there are circumstances which press
ly upon classes and persons, tending to make
wn efforts for their subsistence insufficient. The
ion of accidents upon one class of parents, and
es and neglect of others, likewise leave many
and helpless children in a state in which they
be destitute but for the aid of neighbours. All
e causes being inherent in human nature and
iety, we may be assured that "the poor we shall
with us always," however it may be possible, by
ous and humane efforts, to keep their numbers
comparatively moderate bounds.
an early state of society, the relief of the poor is
to the operation of benevolence amongst indivi-
; and the destitute are either succoured by those
y near them, or go forth to beg relief in a wider
. Generally, the efficacy of benevolence for this end is made the greater, in consequence of the succour of the poor being set forth as a duty in almost all religions. In addition to occasional and particular acts of charity, donations are made and legacies left, for the purpose of affording a more or less regular and systematic relief within certain bounds. As society, however, advances, it is found that the charity of individuals is either an insufficient means of succouring the poor, or is attended with certain inconveniences. The classes of society becoming more detached from each other, cases of destitution make appeal, almost exclusively, to the parties nearest in poverty; while the rich, and the comparatively rich, are saved from all concern in the matter, merely because local and social circumstances spare them a personal connexion with it. A relief by benevolence is found to be oppressive to those who have kind feelings, while the niggardly and ungenerous escape. A dense and highly artificial state of society rendering it impossible to keep watch over particular cases of destitution, the relief afforded is unavoidably partial and unequal—no one knowing the real needs of a petitioner, or how far he is relieved by others; so that a door is opened for the practice of gross imposture, while the more modest poor are probably the least liberally treated. It is also generally found, that this state of society is attended with an increase of the numbers of the poor, rendering individual efforts insufficient, and tending to such disorders, that a public provision becomes necessary as a matter of police. A new principle is then evolved from the natural fact of the existence of a poor class, namely, that the community cannot be safe from imposture, spoliation, the propagation of disease, and other evils, unless it combine to assure itself that no person in the country shall want the necessaries of life.

It is then that states begin to make arrangements for the regular relief of the poor; and, generally, these arrangements are of a more or less advanced and efficient nature, in proportion to the advanced social condition of the respective countries. In the most of the Catholic states of Europe, the system adopted consists simply in the ministers of religion taking charge of the voluntary contributions of the people, and administering them to the best of their ability. In Portugal, Sardinia, Venice, France, Belgium, Holland, and some other countries, the same system exists, excepting only that the ministers of religion are superseded in their charge by officers appointed by the state. We need scarcely remark, that the single fact of the funds being voluntary renders it impossible, as to any of these countries, to be certain that the provision for the poor is sufficient in amount. In England, Ireland, Prussia, Bavaria, Wurtemberg, Mecklenberg, Berne, Russia, Denmark, Sweden, and Norway, the principle is recognised that a compulsory provision ought to be made to ensure that all the members of the community shall have the means of subsistence. In England, this has been in operation for nearly three centuries; but, in the most of the other countries enumerated, it is of comparatively recent adoption. In America, all the states of the Union which are of English origin have, from their commencement as colonies, adopted this principle. In Scotland, laws for a compulsory provision have existed nearly as long as in England, but have never been carried out into full operation. In that country, a voluntary system is followed in more than one-half of the parishes, and a compulsory system in the rest, the clergy being, in almost all instances, the administrators; but nowhere is the principle of a legal right in the poor to relief, or, what is identical therewith, of its being the interest of the community that relief be granted, practically recognised.

ARRANGEMENTS FOR THE POOR IN ENGLAND.

Acts respecting the poor in England only made arrangements as to the places in which they should beg, until, in 1536, immediately after the dissolution of the religious houses, by which the poor had previously been in a great measure supported, it was found neces-

this law were, "to set the poor to work, to relieve the lame, impotent, old, and blind, and to put out their children as apprentices." To attain these objects, the inhabitants of every parish in the country were required to raise a fund sufficient to maintain their own poor; and the administration of this fund was placed in the hands of parish overseers, under the control of justices of the peace. The leading merit of this act was, its requiring that the claims of the able-bodied for relief should be subjected to a *test*, to prove that the alleged want was not the result of an indolent disposition: *such persons were to receive relief only on condition that they should work for it.* To make this rule certain of operation, an act passed eight years after (7 Jac. I. c. 4) ordered the building of *houses of correction*, to be provided with cards, mills, and other implements, and where the vagrant able-bodied poor should be set to work. This may be considered as the origin of the workhouse system in England.

It is clear from the statutes of this period, that the chief evil which the legislature found itself called upon to consider and provide for, was the indolent and vagrant disposition of a large section of the people. It was not, as now, that many men occasionally find a difficulty in getting work, but that many were unwilling to work, preferring to wander about the country in idleness. It appears that these vagrants were accustomed to stay only for a short period in one place, and to flit about to wherever they thought they would be best supported; nor can it be doubted that, in lonely places, they would not be backward to use means for terrifying the lieges into contributions for their benefit. That, in such circumstances, these people would want all moral culture, and be a source of danger to the community, is of course evident. It required many years' operation of the law to reduce this evil; but at length, about the end of the seventeenth century, it seems to have been considerably lessened. The same class of persons then began to prefer the benefits to be obtained through the claim which the law gave them upon their native parishes, and the evil of vagrancy was gradually exchanged for one of another but less grievous kind—an inclination to a timid and slothful dependence on the relief to be obtained at one fixed place.

The houses of correction were mainly penal establishments; and it was not till 1723, that workhouses

overseers, and others concern
the poor, to regulate their allo
minimum weekly wages of an
posing the gallon loaf to sell
down at 3s.; when married
wages were to be at least 6s.;
they were to be at least 12s.;
they were to be 15s. In the
gallon loaf rising to 1s. 6d., th
man were not to be less than
wages of a married man, with
be less than 8s. 3d.; and thos
seven children, not less than 2
which remind one of the igu
fourteenth century, were mad
permanent, by an act passed
Geo. III. c. 23). It cannot f
a mean opinion of the characte
of England must have been
more enlightened men of tha
thought necessary to undertak
simplest duties which they ow
make them every where pensi
for a considerable part of thei
tempt to secure to a portion of
supply of food in scarce as in pl
quently to relieve them from t
trenchments by which a defici
over the whole year, and absolu
was further liable to be conside
The evils of the regulations th
by peculiarities in the admin
labouring classes became a me
of rate-payers to carry on a
the pockets of another. The g
laws were much aggravated b
respect to *settlement;* virtuall
were *imprisoned* in the parish
where some subsequent circu
ship, marriage, and inherita
claim. Thus, the population
required by the demand for
accidental circumstances migh
ingly, there were often horde
at one place, and a great an
hands to undertake it in ano

ar part of its domestic polity, a wonder to neighing nations. The sum raised for poor-rates 776, while the workhouse system of 1723 was operation, was only £1,720,316; in the three after the passing of Gilbert's Act (1783-4-5) it ged £2,167,749. But the average of 1801-2-3 5,348,205; in 1818, a year of scarcity, it reached normous sum of £9,320,440; and even in the fair of 1830, 31, 32, and 33, it was above eight m. This was an increase far exceeding that of pulation, and the more alarming as it took place a period of progressive national prosperity. Alevery where it pressed very severely upon the rty of the country, and in some places had even property to be abandoned, the rates exceeding t could be derived from the land.

evil being generally felt and acknowledged, a royal mission was issued in 1832 for inquiring into it, in that parliament might apply a remedy. The ing is a condensed summary of the report which body drew up, after a careful investigation cond throughout every part of England and Wales: hat wherever the expenditure had most increased, also, the industry of the labourer had proporly degenerated, because in such places subsistence he poor-rates was more easily obtained than by . That under such influences his prudence and were discarded, because they could, with the utcertainty, only secure for him, by present sacrifice oyment, the same future advantages of which the held out a prospect without the necessity of any ce save that of independence. That his sobriety temperance were thus left without encouragement, the other hand, exposed to the temptations of rative idleness, and the facilities for the indul- in idleness and intemperance which always acany the growth of pauperism: his respectability meanour was now useless, as respectability of ter ceased to be relied on as a means of securing oyment, itself no longer an object of desire. That same proportion as he became independent of r industry, did he also become independent or lless of the comforts of his home, which are inuable to the labourer after a day of toil, but are sought or valued as a change after a day spent ness or dissipation. It was also observed that, e habit of pauperism increased, the standard of stence of the labourers in the district was lowered, lief never being sufficient of itself to maintain per independent of all work; and yet, by renng him partially so, constantly tempting him to that further portion of comfort which was atble only on the comparatively hard terms of earnt by the sweat of his brow. The standard of the ers' subsistence being once lowered, that of the strious labourers amongst whom they lived, and occasionally felt the effects of their competition, also. Where the system prevailed of allowing re- aid of wages, there the operation was immediate, ll the labourers were at once pauperised, being lly exposed to the effects of a system which left all stry, beyond a certain point, without its reward, therefore without a visible object. While these nces were destroying the industry and morality he able-bodied labourers, the bastardy-law was ing out encouragement to female unchastity, in the of a money allowance for each bastard, which, by mount, of itself elevated her condition in proporto the number of her spurious offspring, rendering ther of several bastards better off than she would been as a mother of as many lawful children, and ring her a dower which usually tempted some man arry her; while the same law, by subjecting the ised father to punishment, often subjected him, at woman's discretion, to the alternative of marriage jail—the former of which was generally chosen as least present evil. Under these influences female tity had, in many districts, so far ceased to be ed as a virtue, that not only the woman herself, but her parents and her husband, seemed, where the law had had its full effect, to have become indifferent to it.

The evils of the system were not confined to the paupers, but extended to all who had to administer the law. So large a fund as between seven and eight millions, administered without any practical responsibility, naturally tempted the cupidity of the officers through whose hands it passed. The office of overseer was, therefore, generally sought by a class of small farmers and tradesmen, to whom the office must have been most burdensome had it been discharged gratuitously as the law provided. It was found that the overseers were usually appointed, in places where the evil had reached a great height, not from the class of the *substantial householders* of the parish, as the statute of Elizabeth requires, but were usually needy persons, to whom the indirect advantages of the office were important, and who were helped into the office by the efforts of persons similarly interested, either as tradesmen of the parish, or as owners of the dwellings which the paupers inhabited, or in other ways, more as receivers, directly or indirectly, of the rates, than as rate-payers. The spirit of the enactment in the 45 Geo. III. c. 54, § 1, which provides that no contract for the lodging, keeping, or maintaining the poor, or for taking the benefit of their work for their better maintenance, shall be valid, unless the person with whom it is made shall be resident within the parish, was fully carried out in practice in nearly the whole of the 15,000 parishes and places separately maintaining their own poor—every tradesman of the parish, and every employer of labourers, being bribed to maintain whatever system the vestry adopted, by a share in the profitable supply of the parish poor, or by the payment of a part of the wages of his labourers in the shape of relief to them out of the rates. The refractory parishioners were constrained to acquiesce, on pain of losing these and similar advantages, which, being withdrawn or denied, left to them only the obligation of paying those rates. To secure the full operation of this system, the parish was not permitted to deal elsewhere for any commodity with which any parishioner could supply it, and was thus usually confined to the worst market for the goods it purchased, in the same manner as, by the settlement laws, it had been cut off from the supply of other labourers while any belonging to the parish remained unemployed.

The evidence seems also to prove that the functions of the magistracy had almost invariably ceased to be applied to the objects for which they had been created. The magistrates of counties were usually too dispersed, and too little immersed in the actual business of the several parishes, to avail themselves of the advantages which the overseers and the other more immediate administrators of the system derived from it. The magistrates of corporate boroughs, towns, and cities, were, however, in many instances, found to be not less rapacious or ready to apply the administration of the law to their pecuniary profit or direct advantage than the parochial officers. But although the magistracy must generally be acquitted of having sought to derive an immediate pecuniary advantage from the administration of the poor-laws, they were none the less ready to pervert the law to purposes utterly at variance with its original purposes and with the prosperity of the community. Very many of the magistrates, influenced by benevolent intentions, were ready on all occasions to admit the claim of the pauper, and to compel overseers to administer relief when they inclined to refuse it: such magistrates were constantly resorted to by paupers in preference to others who more vigilantly examined the grounds of their claims; and a reputation for being the *poor man's friend* was easily earned by the lavish and immoderate expenditure of the fund of the general rate-payers. This reputation was found to be useful in many ways, and was thus sought for political purposes, or for the attainment of local power, or for the mere gratification of vanity, by many magistrates,

an act was passed (4 and 5 Will. IV.), usually called the *Poor-Law Amendment Act*, by which these monstrous evils were for the most part extinguished, and a return made to the just principles and practices dictated by the acts of 1601 and 1723. Both parties in the state supported this measure in almost all of its provisions,† and it was only opposed by a few individuals. With regard to the impotent poor, this act rather increased than diminished the liberality of the arrangements, while it made several other considerable improvements. The great class of adult persons who, from old age or infirmity of body, are wholly unable to work, were to remain, as before, entitled to a support by means of out-door allowances. Of destitute children, those unlikely from natural defects to be able to win their own bread, were provided for by out-door relief: those, on the other hand, who were likely to prove useful members of society, were taken in charge and reared in separate establishments, where their education and training for industrious callings were particularly cared for. Judicious provisions were also made for their being ultimately set afloat in the world, as apprentices. With regard to illegitimate children, several former provisions of evil tendency were annulled, and it was provided that no regard should be paid to them till they became actually chargeable upon the parish, when relief should be extended through the mother, she being in this respect treated as a widow. Persons unable to support themselves through accident or from sudden and dangerous illness, were to receive temporary relief, and to have all necessary medical attendance. Insane paupers were to be placed in proper asylums at the expense of the public.

The provisions for *able-bodied* claimants formed the most important part of this act, as indeed it was in this department that the abuses of the old system were the most glaring. The main feature of the new arrangements was the erection of workhouses by unions of parishes, where relief should be offered to able-bodied

* M'Culloch's Statistical Account of the British Empire, vol. ii. pp. 615-16.

† To prove what is here stated, all who know any thing of parties, and their connexions in this country, will be ready to own that no better means could be fallen upon, than to make such extracts as the following from the two leading *Reviews*:—

[illegible] Review of March 1871, after remarking that the

was made for enabling the [illegible] to exercise a humane discret regulations.

Some material changes wer for the administration of th payers elect for each union guardians, each rate-payer hi to his property, and the proce under the control of a central commissioners appointed by chief commissioners, there a each of whom inspects a parti upon whatever he sees amiss amended.

Gradually, under the ope Amendment Act, the greater formed into unions, each und and each provided with a wo there were 588 unions formed, excepting about eight hundred census of 1831, of 12,182,031 of the new system, the commi order, prohibiting relief in m the employment of individu entire support upon their mas they began, in a cautious ma spirit of the act, to put a stop able-bodied—meaning labour lies, are in health, but exce children. This order was iss unions, and afterwards it was the total number to which it 1841, 437, comprising a popu census of 1831, of 7,372,021 p the expenditure upon the £7,511,219 in 1834 to £4,044, one half. Since 1837, the ex on the rise, and in 1840 it wa

The first effects of the stop tem were most surprising. Th lation—the hordes of unemplo to be partially or entirely sust who had been condemned to for days, and spend half the ness in the parish gravel-pit magic. It was found that, left

the application of more efficient labour increased
ıployer's returns, and at the same time reduction
s diminished his out-goings, he had a larger fund
o purchase of those services. The redundancy
ed with its causes. The able-bodied pauper is
sult of art. He is not the natural offspring of
xon race. Unless his pauperism is carefully fos-
by those who think it their interest to preserve
rapidly reverts to the *normal type*—the indepen-
abourer."*

union workhouses are in general remarkably
rranged establishments. The food, both in qua-
d quantity—the accommodations of all kinds—
ral discipline and order, are in general all that
mane and the enlightened could wish. The ar-
ents for the education of the young are parti-
y worthy of commendation. Workhouses are for
st part occupied only by some portion of the
or, and by young children. Though held open for
eption of the able-bodied under any exigency to
they may be presumedly liable, they are rarely
ed to by such persons, partly because, the labour-
t being freed, there is in general no lack of means
independent subsistence, and partly from the
al dislike to a life of restraint. One regulation of
houses may be supposed to have operated power-
n keeping idle married men at a distance from

In most instances, they are not allowed to live
same part of the house with their wives. Partly
as needful for the sake of order, and to avoid
y gross evils which flourished under the old sys-
Partly it is owing to a principle laid down by the
ssioners, that a pauper is not entitled to be in
espect on a level with the man who works for
lf and his family. The regulation has attracted
censure, and perhaps it would have been better,
st in point of expediency, not to have had it in-
ed.

e new law was enacted for only five years. It has
oftener than once renewed for a brief period; and
is at this time (Autumn 1841) a general expecta-
hat, before being renewed permanently, it will be
lerably altered. Excellent as the measure has
in its main features, and though it has redeemed
nglish labouring classes from a kind of slavery, it
een the subject of an outcry of the most violent
ster. This is partly traceable to those who pro-
by the abuses of the old system, partly to an igno-
sentimentalism, and partly to the arts of politicians.
e is too much probability that this outcry will pre-
e a considerable extent, and that England is about
e some of the worst abuses of her old poor-laws
ed.

RRANGEMENTS RESPECTING THE POOR IN SCOTLAND.

e poor are provided for in a much more sparing
er in Scotland than in England; and the able-
d, so far from having even the offer of mainte-
e in a workhouse, are totally overlooked.
e early acts of the Scottish parliament respecting
or, contain, like those of the English parliament,
provisions for the repression of begging. At length,
79, an act, apparently suggested by one of the
sh parliament seven years earlier, introduced the
iple of a compulsory assessment for the impotent
providing at the same time that able-bodied
rs should be punished as vagrants. The adminis-
on of this law was committed to justices of peace,
class of functionaries did not then exist, but were
mplated, though no such appointments in reality
place at that period. Acts of 1592 and 1663 ulti-
y committed the management of the poor, in coun-
rishes, to the heritors (proprietors) jointly with
irk-sessions—the latter being parochial ecclesias-
courts, composed of the minister and a small body
y elders—and to the magistrates in royal burghs.
these administrators there is no appeal except to
upreme civil court of the country (Court of Ses-

* *Edinburgh Review*, lxxiv. 33.

sion), an arrangement of course equivalent to there being no appeal at all. Three years' residence confer a *settlement*.

In 236 parishes, containing 1,137,646 persons (nearly the half of the population of the country), a legal assessment has been resorted to. In 126 parishes, with a population of 305,654, there is what is called a "voluntary assessment," which may be considered as only a regulated and equitable mode of voluntary contribution. In the remaining 517 parishes, containing a population of 872,626, there is no assessment whatever, and the funds for the poor arise from voluntary contribution, chiefly in the form of offerings at the church doors. The average annual sums collected under this system during the years 1835, 6, and 7, were—by collections at the church doors, £38,300, 10s. 2d.; by other voluntary contributions, £18,976, 10s. 2d.; from sessional fees, &c., £20,604, 12s. 10d.; from assessment, £77,239, 19s. The aggregate is £155,121, 12s. 2d. It is remarkable that the whole sum here described as raised by assessment, being for 236 parishes, including Edinburgh, Glasgow, and all the other considerable towns in Scotland, was just about a seventh more than the sum raised for the poor in *one London parish* in 1833 (St George's, Hanover Square).* In Scotland, the expenditure for the poor is equal, on the average of the above three years, to 1s. 3¾d. a-head on the population; in England, during the same period, the expenditure was equal to 6s. 10½d. a-head on the population.

As might be expected, the provision for individual paupers, is, in Scotland, extremely slender, and almost every where a vast number of claimants are altogether rejected. In the two workhouses of Edinburgh, for example, the average annual expense for each inmate is from £6 to £8. Excepting in these instances, the provision for the poor in Scotland may be said to consist in a small weekly dole of money, considered as a loan or aid, for which the relations of the parties, or the parties themselves, might afterwards be held chargeable, supposing that their circumstances allowed of its being refunded. In the case of persons who, from infirmity, fatuity, or infancy, can do nothing for themselves, and who at the same time have no relations able to aid them, the dole is considered as a full provision for maintenance: from 2s. to 4s. are given in such cases. Where any remains of health and strength exist, the allowance is usually less in proportion, and may be said to range from 6d. to 2s. a-week. It is in these cases considered strictly as an aid, in addition to what the individual can gain by personal exertions. In the unassessed parishes, the average allowance was, a few years ago, £1, 0s. 4½d. per annum. The administrators of the funds (usually the kirk-session) subject every application for relief to a rigid scrutiny, and never continue any relief when they think it ceases to be strictly necessary. Generally, it may be said, the provision is more liberal in towns than in the country, and in the Lowlands than in the Highlands. In the last districts the funds for the poor are extremely small. "There is something," says a late writer, "approaching to the ludicrous in finding the minister of Alness, in Ross-shire, saying, in his statistical account, that people come to his parish for the benefit of its poor allowance: the fund is £58, 18s. 4d., divided among 110 paupers, the highest annual allowance being £1, and the lowest 6s. If we make allowance for a resident and humane landlord, and take a glance at the provisions in the neighbouring parishes, we shall find, however, that this choice is not made without reason. In the very useful report of the General Assembly in 1839, we find that Dingwall, the immediate neighbouring parish, gives an annual uniform allowance of 5s.; Foderty gives a maximum of 12s. and a minimum of 2s. 6d.; Cairnach a maximum of 12s. and a minimum of 4s.; Eddertoun a maximum of 8s. 6d. and a minimum of 5s. 6d.; Knockbain a maximum of 10s. and a minimum of 5s.; and Kirkmichael a maximum of 10s. and a minimum of 3s. 6d. These

* The sum raised for the poor in that parish in 1833 was £67,316. The new law reduced it in 1835 to £27,301.

'The parish of Kilmuir, in the Island of Skye (cutting off the district attached to the parliamentary church of Steinscholl), contains a population of 2275; the average amount of funds, distributable among the poor, is about £3 annually, and a distribution is made only once in two years. The last distribution, prior to the date of the return (21st August 1838), took place on the 3d March 1836, when the sum of £6, 3s. 6d. was divided among 68 paupers.' The minister states, 'As the amount of church collections has varied little for several years back, it has been found necessary to restrict the number of paupers to about 60 or 70 at each distribution; but, were the funds of greater amount, it would be necessary to admit no fewer than 200 paupers on the roll.'"—*Westminster Review*, xxxvi. 394.

The smallness of the provision for the poor in Scotland, is not to be rashly attributed to want of feeling on the part of the nation. There is in Scotland a strong prejudice against all but self-dependent modes of existence. It is a general opinion that all systematic succour held out to the poor, is productive of evil instead of good, even to the poor themselves. This succour is thought to be particularly detrimental, when it is the result of a fixed assessment or rate, for then it is supposed that the poor are led more particularly to depend on the public charity instead of their own exertions or the kindness of relatives. The smallness of the sums given to the helpless, can only be attributed to this general prejudice against pauper relief; for it may be presumed, that, if there were another feeling in the case, the ordinary slender funds would be augmented by a sufficient assessment. What proves very strikingly that opinion, and not want of benevolent feeling, is the main cause of the small provision, is, that the humbler classes in Scotland have, in general, as great a disinclination to ask public charity, as the wealthier classes to give it. They are generally anxious to avoid resorting to the kirk-session as long as possible, and only do so when all other resources fail. This, we say, is generally the case, for of late years there have been strong symptoms of a change of feeling on this subject amongst the Scottish people.

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equitable, as tending to save the ri
of the poor, that it has never, to o
with a single advocate besides its au

A considerable change in public
subject has been wrought by the pu
phlet by Dr Alison of Edinburgh.*
essay is to prove that the system of
tion pursued in Scotland is attend
ought to make it a subject of shame
to the community. He contends th
more especially, it is productive
misery, shocking to all benevolent fe
dangerous in some respects to the
tants. He shows, that in Edinburgh
and other large cities, where there i
tem of relief for the poor, fever has
prevalent to a degree quite unknow
town—a fact which must in the main
wretched condition of great hordes
in the meaner parts of those cities.
that, in two late years, one-*sixteenth*
of Edinburgh, and one-*sixth* of the p
gow, were affected by dangerous fev
number of cases treated in the ho
during the last seven years, has b

have kept them above public charity. Thus, so e restrictive system seems to spread, instead of g, the evil of pauperism. When a fatal epidemic out in one of the towns in question, subscrip- are generally raised by the wealthy classes to r the suffering poor; and the evil is thereby e alleviated in some, but only in a slight degree. ctims of the pestilence have been prepared for it rs of unrelieved suffering, and that generosity once might have prevented disease, is now unable et its calamitous progress.

popular doctrine in Scotland is that advanced by olitical economists, that systematic relief for the ads to habits of improvidence, and encourages ges amongst persons unable to support their g, thus tending to increase, instead of diminish- uperism. Dr Alison, on the contrary, maintains poor-laws, such as exist in England, do not in- with moral restraint, but support and strengthen that moral restraint is nowhere so feeble, pulation (in a long-inhabited country) nowhere such rapid progress, as where there is no legal n for the destitute, and where therefore the pro- f destitution is always clear, obvious, and imme- A pauper population is increased by the continu- a state of abject poverty and a want of the ne- s of life. He says—"Below a certain grade of y, the preventive check of moral restraint has r. Twenty-five years of observation of the habits poor have shown me, that there are none among population makes so rapid progress as those who ntinually around them examples of utter destitu- nd misery. In such circumstances, men hardly rward to the future more than animals. It is easy to say, that by cutting off from a poor family rospect of relief, in case of destitution, we can them careful and prudent. The practical result ly different. Another alternative is uniformly ed. *They lower their habits;* and those who not been accustomed to observe them, are not how much reduction of comfort the family of a ring man, disabled or deprived of employment, ndergo, and not only life be preserved, but the ty for occasional irregular and precarious em- nt continue. On the other hand, when men are ved from this state of hopeless and abject des- n, they all (or with few and trifling exceptions) ly fall, more or less, under the dominion of *ar- wants*, and form to themselves a *standard of t*, from which they will never willingly descend, maintain which they will keep themselves un- degree of restraint unknown to those of the poor e continually struggling to obtain the first ne- ies of life."

e object of Dr Alison's pamphlet has been opposed rious writers; but the views upon which he pro- have not been satisfactorily replied to, and they unquestionably made a considerable impression e public mind in Scotland. The conviction is ing that the present system is inequitable with t to districts, and nowhere so liberal as a true , not to speak of humanity, requires.

ARRANGEMENTS RESPECTING THE POOR IN IRELAND.

Ireland, there was till a recent period no syste- provision for the poor, but the country was by ame destitute of institutions designed for their f.

gislative enactments had progressively, during the ntury, established county infirmaries, dispensaries, ic asylums, houses of industry, and receptacles for ate infants and old people; and similar institutions, er with schools, lying-in hospitals, houses of re- and mendicity houses, had been set on foot in ous places by private benevolence. But, while e was thus done for the alleviation of temporary and al distress, there was a mass of mendicancy, and ount of general suffering from occasional famine consequent epidemics, which made Ireland singular among the countries of Europe. It was calculated that, out of a population of between seven and eight millions, upwards of two millions were in a state not much short of permanent mendicancy. The great bulk of the people being an agricultural peasantry, living on small patches of land, and depending mainly on the potato crop, a failure of that product was attended with wide-spread misery, invariably followed up by destructive fevers. The epidemic of 1817, which was the effect of the failure of the crop of 1816, affected a million and a half of persons, and carried off 65,000. The people, moreover, having no resource when they lost possession of their little pieces of ground, landlords found that they were rapidly losing all power over their property. Desperation made the tenants cling to their ground with a pertinacity which nothing could overcome. A common danger having united them in one common cause, the forcible extrusion of a tenant was resisted by one and all, or, if effected, it was sure to be savagely avenged. Practically, the tenant was able to remain on the ground as long as he chose, without much regard to the payment of rent, unless his *good-will* was purchased either by the new tenant or by the landlord. The inconveniences experienced in consequence of the bulk of the people being thus always on the verge of destitution, and without any resource when they reached that point, had become, in addition to those of actual mendicancy, so grievous, that a poor-law began to be contemplated as necessary for Ireland; and in 1833 a royal commission was issued for an inquiry into the subject.

In consequence of the report of this body, an act was passed (1 and 2 Victoria, c. 56), for the introduction of a modified poor-law into Ireland. In the principal arrangements, those adopted in England under the Poor-Law Amendment Act were followed; and the general superintendence was confided to the same commissioners. The system is still in its infancy; but it has so far worked well. In March 1841, 127 unions had been formed and declared, and 60 workhouses were in progress, or in operation. It is anticipated that three more unions will be all that are necessary.

GENERAL OBSERVATIONS.

Poor-laws are, after all, only an expedient for meeting an evil partly inherent in human nature, and partly the consequence of its erroneous moral and political condition. Were all born equally sound, and were all so instructed and so placed socially that each man realised a reasonable sum for his labour, and was disposed to make a proper use of his gains, there would be no need for poor-laws. Such conditions not existing, this expedient is unavoidably called into use, and we must not be surprised that, as one designed to meet great evils, its own operation is attended by less ones. By far the worst effect of poor-laws is the moral degradation which they produce in those for whose benefit they are established. The man who has to ask for public relief to his necessities, loses from that moment the self-respect on which much of his virtue depends. A fatal lesson is taught him—that his wants may be supplied without his own exertions—and the motive to an independent and industrious course of life is greatly shaken, perhaps destroyed. This is itself an evil of such serious magnitude, that it forms with many an insuperable objection to all regular provision for paupers. Such may be said to have been, till a recent period, the public feeling of Scotland on this question, and it still is the predominating sentiment of a large portion of society in that country. It is an objection which we, for our own part, would have difficulty in overcoming, if we did not see around us the awful effects which an inadequate provision for the poor works, in the present condition of society. Unquestionably, nothing but a consideration of the horrible inhumanity, and the extreme dangers to the common weal, which are inseparable from the neglect or repulse of pauper claims, could excuse the deterioration which we unavoidably effect in a man's nature, by giving him that for which he has not laboured.

Another great evil of poor-laws is, that they take

away part of the fruits of industry from those who have legitimately acquired them, and bestow them upon the idle. Industry is by this means discouraged, and sloth and improvidence are in a proportionate degree fostered. In England, this had reached to an enormous height, and even now the abstraction of five millions from the gains of the industrious, must operate very seriously in retarding the progress of the country. It is, however, as already said, a tax unavoidable in present circumstances, if we would escape more serious evils.

While a reasonable doubt can scarcely be entertained as to the propriety of both succouring the helpless and offering a modified provision to the able-bodied in a needful state, it must be equally clear that the more that habits of foresight and self-dependence are propagated in the country—the more that all-sustaining moral influences are diffused through it—we may expect to see the less need for poor-laws. Although there are upwards of twenty millions in savings' banks, and benefit societies are widely spread, still the great bulk of the labouring classes of this country live from hand to mouth, without any store whatever on which to fall back in the event of sickness or an occasional lack of employment. This is a preposterous state of things. What is to be expected of a people, the great bulk of whom are contented to live with only a little accident between them and a state of dependence on private or public bounty? Sickness is what all are liable to at all times; failures of employment take place at frequent intervals every where. There surely might be some better provision against such contingencies than a public provision, which makes the recipient a degraded man for ever. Individuals might be induced, by an improvement of the moral agencies of the country, to do much for the securing of their own independence; and the remainder of the required provision might perhaps be obtained by systematic contributions from the labouring classes towards a common fund, from which succour could never be a degradation, seeing that they had themselves created it. Proposals of this kind are apt to strike the mind unfavourably, from their being new; but the position at which this country has arrived is in some degree new, and accordingly calls for measures of a different kind from what we are accustomed to contemplate. Certainly, while only the expedient of poor-laws is adopted, the community can never be inspired, in all its departments, with that manly and independent feeling which is the inseparable associate of all the other virtues, and the great distinction between the freeman and the slave.

LIFE-ASSURANCE.

Life-Assurance, in its ordinary character, is a means of securing, by a present payment in full, or of an annual payment, a sum to be realised after the decease of the party.

It is obvious that, to many persons, the having this in their power is of great importance. To none is it so important as to individuals in the middle walks of life, who, for the present, are perhaps able to maintain their families in comfort, but being unable to accumulate a large surplus capital, cannot be sure that, in the event of their death, those dependent on them will not be thrown into poverty. To such persons, life-assurance presents itself as a ready and convenient means of providing for those in whom they are interested. With a certain annual sum laid aside from a professional income, or from the profits of trade, such a person can make sure that, though death cut him off abruptly, his widow and children will have something to look to, either for an entire maintenance, or to aid in enabling them to gain one for themselves. By the same means, an individual, possessing an entailed estate, can make provision out of its current rents for those younger and more helpless children, who, at his death, would cease to be benefited by it. An individual, also, insures in behalf of another, or having a large claim in the form of debt, can insure upon the life of person such a sum as would be sure to cover in the event of that person's sudden death. There are many other circumstances in which life-assurance may become highly beneficial; but its chief utility is securing a certain sum to helpless persons, in the event of the decease of those on whom they depend.

The principle on which life-assurance must be conducted is one which it has been reserved for modern times to discover, namely, that, while the duration of the life of a single person is of all things the most uncertain, it is possible to ascertain, with tolerable clearness, the average of a *multitude* of persons of a particular age, how many will die within next year, how many in the second year, how many in the third, and so on. The medium on which calculation gives what is called the *expectation of life* for each person of the set. A certainty, in short, is attained in this proverbially uncertain subject, when we take a great number of persons, and consider them with regard to the circumstances in which they live. It is found, for instance, that, of 100,000 persons, of a certain age, residing in this country, the number who will die within another year has elapsed, will be about 1521, or rather more than one and a half per cent. Supposing that 100,000 persons were to associate for the purpose of making sure that the widows or other heirs of each person who died within a year should have £1000, it would only be necessary, in that case, for each person to contribute as much to a common fund as would amount to £1,521,000, or a thousand times 1521; that is, each would have to pay in £15, 4s. 2d. It is evident that those who died, or their heirs, would profit to the extent of £984, 15s. 10d.; but without injury to those who survived, for these also had their chance of gain, for which it was but fair that they should pay. This would be a simple transaction in life-assurance, and would serve to convey an elementary idea of what life-assurance is, though, in practice, the transactions are usually of a somewhat more complicated kind.

An assurance is rarely transacted for a single year. The object of most is to pay a certain sum every year as long as they live, in order that a sum may be realised at their death. Assurers are also of various ages. The young have the expectation of longer life than the old. It therefore becomes proper that they should pay more than those more advanced in life. Indeed, the payment is to be a payment appropriate to each particular year, and this, accordingly, is the case. Another circumstance claims particular consideration. The payments by assurers are not to clear off one year's claims, but to realise a sum many years hence, large funds become accumulated, and upon the improvement of these depends. If a high rate of interest is obtained, the funds experience a rapid increase, and the less money are required to effect insurances. If, on the other hand, the interest realised be small, the ensurers must make their original payments so much the larger.

Life-assurance is effected in this country by offices established by joint-stock companies, who look to making a profit by their business, or by societies assuring societies. The former are shortly called *proprietary*, and the latter *mutual* offices. Offices of the first kind are usually held by a joint-stock company with a large subscribed capital; and the chief advantage which they hold forth, is the ample security of all claims presented by the capital, and the responsibility of the shareholders. In the case of a mutual office, there is only, it may be said, an association of customers, each of whom is concerned in insuring his neighbour. In this case, however, all surplus profits, instead of going into the hands of a trading company, remain the property of the insurers, and are ultimately to be divided amongst them. For a long time, the business was conducted almost exclusively by offices of the first kind, but it was at length seen that all desirable security was to be obtained on the association principle, and for some years this system has been extensively

NCE.

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ubstantial accuracy of other observations, with
h it very nearly corresponds. The relation which
tables bear to each other may be seen at a glance
the following table, showing the *mean expectation*
at various ages according to each.

By Northampton.	By Carlisle.	By Government.			By the experience of the London Equitable.
		Males.	Females.	Mean.	
33·43	41·46	38·39	43·92	41·19	41·87
30·85	37·84	35·00	40·61	38·35	39·12
28·27	34·34	33·17	37·37	35·37	34·23
25·68	31·00	30·17	34·31	32·24	30·93
23·08	27·61	27·02	31·12	29·07	27·40
20·32	24·46	23·75	27·81	25·78	23·87
17·99	21·11	20·30	24·35	22·33	20·56
15·58	17·59	17·15	20·79	18·97	16·29
13·21	14·34	14·39	17·32	15·96	13·91

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on which the first-mentioned table is founded, the
fact of its differing so much from any other au-
ic observation, is of itself conclusive against it;
by parity of reasoning, the close agreement of the
s affords strong presumptive evidence in their
r, and imparts a high degree of certainty to cal-
ions based upon them. The Carlisle table occu-
a mean place between the male and female obser-
ns of government, showing a somewhat shorter
ion than the mean of these. It also coincides
nearly with the experience of the Equitable So-
Considering that it is thus supported by two
sets of observations, and that the whole three ex-
over a period during which life was not so good
has since become, the general opinion in favour
e safety of the Carlisle tables for life-assurance
be held as well founded. This opinion receives
boration from the experience of the Scottish
ws' Fund, which extends over the last twenty-
ears. In 1834, the auditor of that society reported,
result of a careful investigation, "that the re-
d number of deaths by the Northampton tables,
h is the table of the society, is to the actual mor-
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away part of the fruits of industry from those who have legitimately acquired them, and bestow them upon the idle. Industry is by this means discouraged, and sloth and improvidence are in a proportionate degree fostered. In England, this had reached to an enormous height, and even now the abstraction of five millions from the gains of the industrious, must operate very seriously in retarding the progress of the country. It is, however, as already said, a tax unavoidable in present circumstances, if we would escape more serious evils.

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r than the other. In various instances, com- have scales of charges allowing of a participa- surplusages; and these are usually called *mixed* etary and mutual offices.

existing British offices are about eighty in num- ost of them of recent origin. The oldest is the ble, of London, established on the mutual prin- in 1706. At the time when it was set up, no tions as to life existed; and the conductors were ingly obliged for many years to proceed in a neasure at random, charging the same premiums ual payments for all ages under forty-five! The offices, dating from the last century, are the fol- ;—The Sun, 1710, proprietary; the Union, 1714, ; the London, 1721, mixed; the Royal Ex- , 1722, proprietary; the Equitable, 1762, mu- he Westminster, 1792, proprietary; the Pelican, proprietary; and the Palladium, 1797, mixed. are established during the first ten years of the t century:—The Globe, 1803, proprietary; the , 1805, proprietary; the London Life-Associa- 1806, mutual; the Provident, 1806, mixed; the 1806, mixed; the West of England, 1807, mixed; pe, 1807, mixed; the Eagle, 1807, mixed; the At- 08, mixed; and the Norwich Union, 1808, mutual. ates charged by these offices are very various, all cases they have been found sufficient for the In most instances, the companies divide large , while the mutual offices have realised equally surplusages, which they have divided amongst surers, in proportions according to the sum as- and the duration of the insurance, or upon other principle which may be thought prefe-

-assurance grew up in the last and present cen- amidst such an imperfect knowledge of the data ich it depends, that there is little to be wondered he great variety of rates charged by the different . These data are now much better understood, has become possible to arrive at a comparatively stimate of what charges are really required from ividual, in order to make good a sum at his death benefit of his survivors. There might be greater ss still, if the laws of mortality, now so well ascer- were alone concerned; but the rate of interest oney also enters into the calculation, and this, ell known, is liable to fluctuation. Loose as the thus remains in some measure, enough is ascer- to admit of an approximation being made to ing like a standard for the conducting of this ant branch of business.

rate of mortality and the rate of interest upon , are the two principal data on which life-assur- ractically depends. We shall first consider

THE RATE OF MORTALITY.

es of mortality are founded on the assumption man life is of a certain average endurance; and ns of them we estimate the number of deaths ay be expected among a given number of indi- , from the proportion that has been observed to among another class similarly circumstanced.

tables of mortality adopted in this country as sis of calculation for insurance companies, are n number. That known by the name of the mpton *table*, is the oldest now in use. It is d upon observations made by the celebrated Dr of the deaths registered for the population of the parishes of the town of Northampton, during rs between 1735 and 1780. This table, it is now vledged, shows far too high (or rapid) a rate of ity, owing partly to no effect having been given fluctuations in the population of that parish, from ration and other such causes, and partly to the improvement which has taken place in the value since the middle of last century, consequent upon roduction of vaccination and other improvements ical science, as well as in the habits and modes g of the people. In 1827, a select committee of the House of Commons, appointed to investigate this subject, reported—"The evidence appears to your committee to be strong and decisive in favour of the use of tables which give an expectation of life higher than the Northampton. In truth, there is not even a *prima facie* case in their favour."

The *Carlisle table* was formed, not from the register of burials among a floating population, but from observations of the deaths which occurred, at each year of life, among a certain stated number of persons in the town of Carlisle. The observations were conducted by Dr Heysham, and the calculations made, in the most scientific manner, by Mr Joshua Milne, author of a valuable work on annuities.

Finally, the *Government tables* were compiled from observations on the progressive mortality occurring among the government annuitants and other selected classes, distinguishing the sexes. They were prepared, under the directions of government, by Mr Finlaison, actuary to the National Debt; and in 1829 were adopted by parliament as the basis upon which their future calculations should proceed. Mr Finlaison's researches established the fact of the longer duration of female life. He also observed "a very extraordinary prolongation of human life" in the course of the time over which his inquiries extended—so great "that the duration of existence now, as compared with what it was a century ago, is as 4 to 3 in round numbers."

Besides these three, a table was framed by Mr Griffith Davies from the deaths reported from time to time among the members insured in the great Equitable Society of London, from its commencement in 1762 down to 1829, which has since been recalculated and continued down to a later period by Mr Morgan, the actuary to that society. This table is very valuable, as confirming the substantial accuracy of other observations, with which it very nearly corresponds. The relation which these tables bear to each other may be seen at a glance from the following table, showing the *mean expectation of life* at various ages according to each.

At Age.	By Northampton.	By Carlisle.	By Government.			By the experience of the London Equitable.
			Males.	Females.	Mean.	
20	33·43	41·46	38·39	43·99	41·19	41·67
25	30·85	37·86	35·90	40·81	38·36	38·12
30	28·27	34·34	33·17	37·57	35·37	34·33
35	25·68	31·00	30·17	34·31	32·24	30·93
40	23·08	27·61	27·02	31·12	29·07	27·40
45	20·52	24·46	23·75	27·81	25·78	23·67
50	17·99	21·11	20·30	24·35	22·33	20·36
55	15·58	17·58	17·15	20·79	18·97	16·99
60	13·21	14·34	14·39	17·32	15·86	13·91

Independently of the acknowledged deficiency of the data on which the first-mentioned table is founded, the mere fact of its differing so much from any other authentic observation, is of itself conclusive against it; and, by parity of reasoning, the close agreement of the others affords strong presumptive evidence in their favour, and imparts a high degree of certainty to calculations based upon them. The Carlisle table occupies a mean place between the male and female observations of government, showing a somewhat shorter duration than the mean of these. It also coincides very nearly with the experience of the Equitable Society. Considering that it is thus supported by two other sets of observations, and that the whole three extend over a period during which life was not so good as it has since become, the general opinion in favour of the safety of the Carlisle tables for life-assurance may be held as well founded. This opinion receives corroboration from the experience of the Scottish Widows' Fund, which extends over the last twenty-five years. In 1834, the auditor of that society reported, as the result of a careful investigation, "that the expected number of deaths by the Northampton table, which is the table of the society, is to the actual number during the whole progress of the society, as 100 to

57; and the proportion of the expected number by the Equitable experience is to the actual number as 100 to 87." We have understood that the experience of the Scottish Widows' Fund since 1834 is even more favourable to life. If, then, we were to take the whole twenty-five years' experience of this society as a criterion, we should come to the conclusion that the Equitable experience, the Carlisle tables, and the Government mean, are considerably within the verge of safety, while the Northampton tables are so far from the standard of modern life as to be, particularly with regard to the younger class of lives, quite unfit for use.

We have now to advert to

THE RATE OF INTEREST,

meaning the rate at which the yearly premiums may be expected to be improved.

This subject is one which does not admit of the same certainty as the other, and on which, accordingly, there may be great differences of opinion. In 1829, Mr Finlaison writes—"I take it for granted that it will be considered safe enough to assume that money, in a long course of years, will so accumulate, through all fluctuations, as to equal a constant rate of 4 per cent.; because, in point of fact, money has hitherto accumulated at 4½ per cent., whether we reckon from 1803 or from 1783." Other writers, again, and among them Mr De Morgan, looking chiefly to the high price of the 3 per cents. of late years, say that not more than 3½ per cent. should be counted on. Practically, the investments of assurance offices are made on terms much more favourable. It appears, from the published report of the Edinburgh Life-Assurance Company, dated December 1838, that for the three preceding years (1836, 1837, and 1838, when interest was unusually low), the average rate realised on their funds was £4, 16s. 6d. per cent.—about 1½ per cent. higher than the return from the 3 per cents. during the same time. And this, it is stated, was obtained without any part being laid out in the purchase of reversions—on which, it is known, a much higher rate can be got. The example of this office is quoted merely from the circumstance of their report happening to state the precise return at that period. Other Scottish offices are said to have obtained a higher rate. Most of them state that their funds are invested "about," "at," or "above," 5 per cent. Indeed, it is not conceivable that the offices could make such large returns to proprietors and members, in the shape of dividends and bonuses, if they did not generally improve money at about the rate last mentioned. From all of these circumstances, it does not appear likely that calculations for life-assurance, in which the interest of money is assumed at *four per cent.*, will, while Britain remains in nearly its present condition, prove unsound.

EXAMPLE OF LIFE-ASSURANCE CALCULATION.

According to the Northampton tables, out of every 11,650 persons born alive, there will be 46 living at the age of 90. From these tables being ascertained to be unfavourable to life, this must be understood as not strictly the case, but it may be adopted for the sake of illustration. The same tables make it appear that, of the 46, 12 will die in the course of the first year, 10 during the second, 8 during the third, 7 during the fourth, 5 during the fifth, 3 during the sixth, and the last remaining life will fail in the course of the seventh year. It is a favourite mode of exemplifying life-assurance calculation, to suppose these 46 persons, aged 90, associating for the purpose of assuring £100 to each at death. They are supposed to proceed upon the principle of paying all that is required in one sum at first, thus forming a fund which is to answer all the demands which are to be made upon it. In this calculation the improvement of money has been assumed at 3 per cent. The object is to ascertain what sum, by way of present payment, each is to contribute to the fund, so that it may discharge £1200 the first year, £1000 the second, £800 the third, and so on. In order to discharge

£.	£.	£. s. d.
1200, at the end of the first year, the society must be provided with	1200, discounted at 3 per cent., for one year, - -	1165 1 4
1000, at the end of 2d year,	1000, ditto, for 2 years,	942 12 9
800, at the end of 3d year,	800, ditto, for 3 years,	732 3 1
700, at the end of 4th year,	700, ditto, for 4 years,	621 19 2
500, at the end of 5th year,	500, ditto, for 5 years,	431 6 1
300, at the end of 6th year,	300, ditto, for 6 years,	251 3 3
And in order to discharge the remaining L.100 at the end of the seventh year, with L.100, discounted at 3 per cent., for seven years, - - - - - -		81 6 2
In all, - - - - - - - - -		L.4225 0 1

This, divided by 46, gives £91, 17s. 2d. as the sum (technically called *premium*) which each person would need to pay in at the foundation of the society. And this sum of £91, 17s. 2d. is the present value of a reversion of £100, at the age of 90, according to the Northampton tables, and taking interest at 3 per cent.

Supposing such a society to be constituted, and £4225, 10s. 9d. to be paid in by the 46 members, we shall see how its business would proceed until, at the close of seven years, death put a period to the account:—

The original contribution of L.4225, 10s. 9d. being put out to interest, at the end of the first year amounts to - - - - - - - - -	L.4322 5 1
From which deduct for the twelve lives which fall in the course of the year, - - - - -	1200 0 0
Fund remaining at the commencement of the second year, - - - - - - - - -	3122 5 1
Which, bearing one year's interest, will amount to	L.3216 16 7
From which deduct for the ten lives which fall in the course of the year, - - - - - -	1000 0 0
Fund remaining at the commencement of the third year, - - - - - - - - -	2216 16 7
Which, bearing one year's interest, will amount to	L.2283 4 1
From which deduct for claims, - - - -	800 0 0
Fund remaining at the commencement of the fourth year, - - - - - - - - -	1534 0 2
Which, bearing one year's interest, will amount to	L.1580 0 1
From which deduct for claims, - - - -	700 0 0
Fund remaining at the commencement of the fifth year, - - - - - - - - -	879 16 0
Which, bearing one year's interest, will amount to	L.906 10 1
From which deduct for claims, - - - -	500 0 0
Fund remaining at the commencement of the sixth year, - - - - - - - - -	406 10 0
Which, bearing one year's interest, will amount to	L.407 1 1
From which deduct for claims, - - - -	300 0 0
Fund remaining at the commencement of the seventh year, - - - - - - - - -	107 1 1
Which, bearing interest, will amount to -	L.110 0 0
Which will exactly discharge the last remaining claim, - - - - - - - - -	100 0 0

Practically, life-assurance is not effected upon lives so advanced as ninety years. It is common to confine business to ages under 60; and the great bulk of insurers are between 27 and 40, the time about which men in this country begin to feel the responsibilities of a family. But the calculations followed for the various ages are formed exactly in the above mode. All the persons of a particular age in a life assurance society are considered as a distinct group insuring each other. Of those, for instance, at 30 years of age, it is calculated what proportion will die the first year, what the second, and so on; and from each the society looks for such a contribution, present or prospective, as may make up an aggregate sufficient, with the accumulations from compound interest, to pay the sum assured upon each life in that group. It is quite the same thing to the society, or, we shall say, to the general interest, whether the individual insurers pay the whole required contribution at once, or in a series of annual payments, which, as the plan convenient for most, is that generally adopted.

FORMATION OF RATES.

According to the principles of which we have given a slight outline, offices form scales of rates at which

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AN RELIGIONS.

rse is believed to be animated and furnished with
al powers: water, land, animals, stones, trees,
egetables of every description, are all full of di-
purits and secret influences. He who makes any
e article his fetish, touches nothing of that sort
ver, whilst he consumes, without the slightest
tion, what others consider holy. There is a depth
ystery in this superstition which cannot be very
y understood. As far as can be reasonably con-
ed, this species of fetishism implies a connexion
en the visible and invisible, and that every thing
y certain means be made to have a relation to
and his destiny. The quality of the thing arbi-
set apart and invested with an attribute of di-
, is of no consequence; it may be a piece of bone,
gg-shell, or clay, indeed no matter what; there
merely be a belief of a relation subsisting be-
it and man, which relation often commences
er the first time when the thing is consecrated;
ward, every thing properly consecrated and re-
as the residence or tangible investiture of deity,
pposed to have a divine power, which, when
d, is able to incline the Deity to comply with the
s of men. Under different names, this superstiti-
reverence for visible objects has prevailed in all
and countries. At Cape Coast there is a rock pro-
g into the sea, invested with the character of a
, and worshipped by the priests, who annually
sacrifices to it, with ridiculous gestures and strange
ations. In the great temple of Mahometanism
cca, there is a stone which is the object of un-
ted respect and adoration. The Lacedæmonians
sacred stone, which, at the sound of a trumpet,
d to have raised itself to the surface of the water,
the bottom of the Eurotas. The ancient Ger-
and Gauls had also their holy rocks, caves, seas,
s, and trees, which afforded miraculous aid, and
ered oracles. In Ireland there was a stone in
a divine spirit was supposed to reside, and was
fore an object of religious worship. The Lap-
rs had a sacred mountain and a consulting drum.
ese superstitions are not a whit more respectable
the belief of the Negroes in fetishism; they are,
d, almost the same thing.
curling in the visionary ideas of some ancient
, a divinity was supposed to reside in matter, and
liable to be roused from its latent state into
ty, by means of consecration and the performa-
of solemn mysteries. In some of the islands of
ssific, if any person wishes to protect his pro-
, such as a house, field, or place of sepulture, from
ry or intrusion, he declares that it is *tabooed*, or
d under the guardianship of his gods; and the
that such is the case being universal, the pro-
is safe from aggression. Mr Ellis, in his "Mis-
ry Tour through Hawaii," mentions some remarkable
articulars regarding the superstitious observances

company making high charges, and consequently good profits, may be supposed to have more stability than one making moderate charges; while, of a society pursuing business on the same plan, it may be said that the overplus becomes a kind of bank deposit, to be ultimately realised by the depositor. With regard to companies, the defence may or may not be sound, according as business is managed discreetly or otherwise —and there certainly are offices of that nature, entitled to the most implicit confidence, although they present moderate scales. The defence is of greater force with regard to societies; but even there it is not free from

	25	30	35	40	45	50	55
4 per cent.,	L.1 10 4	L.1 15 1	L.2 0 5	L.2 7 6	L.2 15 6	L.3 7 3	L.4 5
3½ per cent.,	1 12 1	1 16 11	2 2 5	2 9 7	2 17 10	3 9 9	4 8

The rates actually charged by the offices which we have cited, may easily be compared with these. It will be found that the additions made for management and the security of the concern, even to the 3½ per cent. rate, are very considerable. The aggregate of the above ages at 3½ per cent., is £18, 16s. 9d.; that of the same ages by the actual rate of the Aberdeen Company, is £21, 4s. 11d., or nearly 12¾ per cent. higher; that of the same ages by the Scottish Widows' Fund, is £24, 7s. 11d., or 29½ per cent. higher; while that of the London Amicable, is £25, 11s., or above 35½ per cent. higher.

MORAL DUTY OF LIFE-ASSURANCE.

On this subject we add some remarks from a paper in *Chambers's Edinburgh Journal*, No. 373. They are conveyed in language which is apt to appear unmeasured to one who has not given the subject much consideration—but, we believe, *only to him*.

"Such being the equitable and beneficial principles on which mutual-assurance societies are established, it is clear that they present, to men in the enjoyment of income, but possessing little property, a most suitable and favourable means of providing, in a greater or less measure, for the endeared and helpless relatives who may survive them. That only about 30,000 persons in possible to transact perfectly safe b dium of that scale. Those who, f prefer the next scale, must be said if they resort to a company which profits to the assured: if they bec society, large periodic additions to more than their due.

In order to convey still more distin ing rates of life-assurance, we subjo which are required, exclusive of ex ment, upon the Carlisle tables, takin at 4 and 3½ per cent.:—

vide, while he yet lives, for his own: it is not more his duty to provide fo during his life, than it is to provide, against their being left penniless in death. Indeed, between these two essential distinction, for life-assurance much a matter of current expenditure part of his income can be devoted by to the necessities of the present; and up, by means of life-assurance, to p future. And thus he may be said t his duty towards his family, instead the case, only doing the half of it.

It may be felt by many, that, ad in full, income is nevertheless insu them to spare even the small sum annual premium for life-assurance. of the present are in their case so g not see how they can afford it. We be no obstacle which is apt to appea this, where an income is at all limit easy to show that no obstacle could b will readily be acknowledged by eve an income at all, that there must b smaller incomes. Say, for instance

and many of them, who would no doubt recover their diseases if proper attention were paid to are literally starved to death, or devoured by s at night.

ongst the degrading doctrines of the Hindoo faith, ration for and even a worship of members of the creation, is not the least remarkable. The cow, ticular, commands the most exalted reverence; his venerable quadruped may be seen in cities ring up and down in the most public places, pering at her ease, and calling forth expressions of pre- respect. The monkey likewise ranks amongst gher grade of animals, and is allowed to roam at wherever he lists—a chartered thief, now laying shopkeeper's sweetmeats under tribute, and anon the fruiterer for a portion of his juicy store. is superstition reaches its climax in the hospitals are erected for affording shelter and succour to ed infirm brutes, including lice, fleas, and other s. It must be an exceedingly nice investigation see who preside as medical attendants over such itions, to determine the state of health of such ts. Other animals besides these are held sacred, me quadrupeds are treated with great cruelty. raught horses, in particular, Bishop Heber in- es, are barbarously abused; nor is there much thy shown to human beings, who are allowed to from disease or hunger under the canopy of n, without awakening a sigh in the bosoms of the ers. Lepers are regarded as objects of divine , and are treated accordingly, sometimes being d or buried alive.

peculiar character of the Hindoo creed is derived their tenet respecting the transmigration of souls. pirits of the dead are said to enter a receptacle ponding to the previous character of the indi- . The immortal part of the just and good, how- nsignificant the person may have been, migrates hermit, a Brahmin, a demigod, and so forth, in dignity according to the degree of merit. The l, on the other hand, not only are degraded as beings, but are compelled to lodge in the bodies nals. The Hindoo oracles endeavour to establish e of conformity between the punishment awarded fences committed. The pilferer of grain is meta- osed into a rat, and he who eats fruits or roots es an ape. Others are degraded into worms, in- and so on. The person thus lowered in the scale ation, must pass through a long succession of de- l births before he can re-assume the human form. ystem of rewards and punishments, although con- to the earth, does not exclude the belief of a and a hell hereafter. The celestial mansions, ose of the Mahometan, are replete with objects uptuous enjoyment; but only Brahmins and per- f high attainments or great sanctity are permitted r these blissful abodes. Some ardent devotees to a higher destiny, and hope to be absorbed into ence of the supreme being, where they shall repose r on an unruffled sea of bliss. The place of final ment, in like manner, consists of different com- ents, the penalties inflicted in which correspond iniquities of those who are doomed to enter their precincts.

devotion of the Hindoos consists in a system emonious observances, not only troublesome in ives, but encroaching on the moral duties, nay, hole business of life. Such a stock of atoning is by this means conferred, that the weightier s of the law seem to be superseded; at all events, ternal devotion is not inconsistent with the most dious crimes. The observances commence in the g with ablutions and prayers, the worship of the sun, in the inaudible recitation of their holy s, in meditation, and the like. The five sacra- are then performed, which are, teaching and g the sacred books, offering cakes and water, an n of fire, in giving rice and other food to beasts, ves, and in receiving guests with honour. The

images of the gods who constituted the guardians of the tabooed places of sepulture, are described as figures oddly carved in pieces of wood; these were stuck on the fences and trees of the enclosure, and with their horrid aspect and ragged garments, seemed no improper emblems of the system they were designed to support. Adjoining the sacred enclosure, the author was shown a *Pahu Tabu*, or city of refuge, which was open for the reception and security of all classes of delinquents, and resembling in its regulations the sanctuaries of antiquity. These, and some other circumstances mentioned by Mr Ellis, open an interesting field for speculation on the probable connexion of ancient and modern superstitions, or at least on the similarity of the delusions by which the untutored human being has in all ages been affected.

Fetishism has long been practised among the Negroes of the West Indies, under the name of *Obeah* or *Obi*—a term most likely originating in Egypt and the adjacent parts of Africa, where anciently there was a deity of a demoniacal character, with the name Ob, or Oub, and from which Moses commanded the Israelites to abstain from making inquiries. Obi is therefore one of the exploded oracles of the ancient world, which has been carried by captured Negroes to the West Indies, and there set up as an oracle and the patron of incantations, charms, and all other superstitious delusions. The adepts who practise this kind of fetishism are called Obeah-men, or Obeah-women, for both sexes engage in the mysteries of this species of jugglery and imposture. We believe, that since the abolition of slavery in the West Indies, and the spread of education and Christianity, the practice of Obi has gone out of repute and notice.

At one period the religion of the Parsees or Fire-worshippers existed throughout Persia and other parts of Asia, but is now confined chiefly to the deserts of Caramania, towards the Persian Gulf, where it is followed by the Guebres or Giaours (infidels), as they are called by the Mahometans. The great prophet or improver of the Parsee religion was Zoroaster, who flourished about two thousand years ago, and taught the doctrines of there being an eternal spirit of Good or Light (Oramuzd), and an eternal spirit of Evil or Dark-

Brahma is represented as a golden-c
with four heads and four arms; but al
name to the great caste of the Brahmin
sects derive their appellation from h
little attention or worship, and he has
erected, nor sacrifices offered to him, n
brated in his honour.

Vishnu makes a very conspicuous figu
annals of India, and the fundamental i
doo religion, that of metamorphoses or t
is exemplified in the *avatars* or appearan
of this deity. In his character of pres
deliverer, he has, say the Vedas, inter
any great calamity threatened the worl
great ends of his providence are brough
various incarnations of the Hindoo
transformations there are ten, and the
dian *yugs*, which compose a certain s
intended to effect a junction with God.
4,320,000 years. The yugs have been
allegorical description of the year, div
stices and equinoxes, and of the precess
noxes. Nine avatars have already take
tenth is yet to come.

It is unnecessary to dwell at any len
derful and ridiculous avatars of Vishnu
peared in the character of a fish, for
recovering the sacred writings given by
had been swallowed by a giant (typica
lious human soul), and buried along with
depths of the ocean. He successively
tortoise, a boar, a man-lion, what is calle
or lingam dwarf, and so on. The tran
of the most ridiculous nature; and we
them, they should only excite pity for th
the wretched believers in such absurditi

In his subsequent avatars under di
Vishnu delivered the world from succes
and giants which threatened its tranqu
ninth avatar, which is supposed to hav
in the year 1014 before the Christian er
sumed the form of Boodh, the author of
distinct from that of Brahma. It appears

ons of time—past, present, and future. A crescent forehead refers to the measuring of time by the revolutions, as a serpent denotes it by years; and ecklace of skulls which he wears, the extinction of ind in successive generations.

e third member of the Hindoo triad is Siva the oyer. It may be here remarked, that the distinuing appellations applied to these deities are not ther characteristic of their functions—Vishnu reserver frequently employing himself in acts of ction, and Siva on the other hand in acts of bence. But much vagueness, inaccuracy, and con-, prevail throughout the whole of the Hindoo ; and this no doubt arises from the love of the ellous and indescribable, by which they are led to at phantoms of thought as undefinable as they npalpable. Siva, it appears, has had an equal of personal adventure with Vishnu, although the cters which he assumed were not so various, nor xploits so important or striking. His female er is called Doorga, and to her the appellation of oyer is more applicable than to him. She is the amongst the female deities; in short, the most dable and warlike personage of the Hindoo pan-. She has rivalled Vishnu in the number of which she has assumed, and the conflicts in she has borne the most conspicuous part; and iants and others who have fallen victims to the ss of her arm, occupy a prominent place in old records of Hindoo mythology. As an ob-f adoration, the appearance which she is made sume shows a remarkable obliquity of moral in those who framed at first, and those who ip still, this horrible personage. Under the of Kalee, she is black, with four arms, wearing ead bodies as ear-rings, a necklace of skulls, and ands of several slaughtered giants circling her like a zone. Her eyebrows stream with blood; ot content, as the male divinities generally are, the simple productions of nature, her altars are to flow with the blood of animal oblations. Old ds even give directions how human sacrifices are offered to this cruel goddess. India has no deity popular, not only amongst banditti, who hold her pecial veneration, but with the more reputable s of the community, who offer lavish gifts on her . The disgrace of her religion consists in the ip of impure imagery, which it is impossible to on.

is unnecessary to enumerate even the more im-nt of the minor deities; as for the whole, they are ther innumerable. Some have taken the trouble kon up three hundred and thirty millions of them. are gods of the elements, of war, of the sun, of inds, of fire, of water, and so on. Every river, ain, and stream, is either a deity itself, or has one ling over it. The worship or deification of the es forms a distinguishing element in the belief of Hindoos. Into this large river, all who dwell a certain distance of its banks crowd morn-id evening to bathe; and the water of this sacred n is carried to all parts of India, and is sworn courts of justice. At Allahabad, where the ns of the Ganges and Jumna unite, the country many miles round is considered sacred ground; o great is the number of pilgrims who resort r for bathing, that the vizier has received in ear half a lac of rupees for permission to enjoy enefit of immersion in the sacred flood. Often-may be witnessed children hurrying their parents river side, fearful lest they should die before able to reach its banks. Nothing can be more sing to the feelings than to behold these poor ng creatures, some calling upon Rham, some one of their false gods, others upon another, with bodies half in the water and half out, the rising oon to overwhelm them. Many are laid where le cannot reach them, and their case is more piti-till. Beneath a burning sun, they are left without food, and many of them, who would no doubt recover from their diseases if proper attention were paid to them, are literally starved to death, or devoured by jackals at night.

Amongst the degrading doctrines of the Hindoo faith, a veneration for and even a worship of members of the brute creation, is not the least remarkable. The cow, in particular, commands the most exalted reverence; and this venerable quadruped may be seen in cities sauntering up and down in the most public places, perfectly at her ease, and calling forth expressions of profound respect. The monkey likewise ranks amongst the higher grade of animals, and is allowed to roam at large wherever he lists—a chartered thief, now laying the confectioner's sweetmeats under tribute, and anon taxing the fruiterer for a portion of his juicy store. But this superstition reaches its climax in the hospitals which are erected for affording shelter and succour to sick and infirm brutes, including lice, fleas, and other insects. It must be an exceedingly nice investigation for those who preside as medical attendants over such institutions, to determine the state of health of such patients. Other animals besides these are held sacred, but some quadrupeds are treated with great cruelty. The draught horses, in particular, Bishop Heber informs us, are barbarously abused; nor is there much sympathy shown to human beings, who are allowed to perish from disease or hunger under the canopy of heaven, without awakening a sigh in the bosoms of the onlookers. Lepers are regarded as objects of divine wrath, and are treated accordingly, sometimes being burned or buried alive.

The peculiar character of the Hindoo creed is derived from their tenet respecting the transmigration of souls. The spirits of the dead are said to enter a receptacle corresponding to the previous character of the individual. The immortal part of the just and good, however insignificant the person may have been, migrates into a hermit, a Brahmin, a demigod, and so forth, rising in dignity according to the degree of merit. The wicked, on the other hand, not only are degraded as human beings, but are compelled to lodge in the bodies of animals. The Hindoo oracles endeavour to establish a degree of conformity between the punishment awarded and offences committed. The pilferer of grain is metamorphosed into a rat, and he who stole fruits or roots becomes an ape. Others are degraded into worms, insects, and so on. The person thus lowered in the scale of creation, must pass through a long succession of degraded births before he can re-assume the human form. This system of rewards and punishments, although confined to the earth, does not exclude the belief of a heaven and a hell hereafter. The celestial mansions, like those of the Mahometan, are replete with objects of voluptuous enjoyment; but only Brahmins and persons of high attainments or great sanctity are permitted to enter these blissful abodes. Some ardent devotees aspire to a higher destiny, and hope to be absorbed into the essence of the supreme being, where they shall repose for ever on an unruffled sea of bliss. The place of final punishment, in like manner, consists of different compartments, the penalties inflicted in which correspond to the iniquities of those who are doomed to enter their dismal precincts.

The devotion of the Hindoos consists in a system of ceremonious observances, not only troublesome in themselves, but encroaching on the moral duties, nay, the whole business of life. Such a stock of atoning merit is by this means conferred, that the weightier matters of the law seem to be superseded; at all events, this external devotion is not inconsistent with the most scandalous crimes. The observances commence in the morning with ablutions and prayers, the worship of the rising sun, in the inaudible recitation of their holy writings, in meditation, and the like. The five sacraments are then performed, which are, teaching and studying the sacred books, offering cakes and water, an oblation of fire, in giving rice and other food to living creatures, and in receiving guests with honour. The

killing a friend, and drinking forbidden liquor with killing a Brahmin. A particular class of devotees, called *yogues* or *fakirs*, signalise their piety by enduring the severest tortures with a firmness and perseverance worthy of the holiest cause. These consist in burying themselves in the depths of forests, either in a state of perfect nakedness, or having their bodies coated with ashes and cow-dung; in allowing the nails of their hands and feet to grow till they assume the dimensions and appearance of bird's claws; roasting themselves before huge fires; immuring themselves in the ground, and leaving only a small breathing-hole; going about with small spears or rings pierced through the most tender parts of the body, and hot irons applied to the side; holding their hands above their head till they have lost the power of bringing them down again, and become withered like that of the individual mentioned in the Evangelists; clenching the fists till the nails penetrate the palms; turning their faces to the sun till they cannot regain their natural position, or gazing on his intense blaze till their eyesight is extinguished; lying on iron spikes; tearing the flesh with whips; chaining themselves for life to the foot of a tree; and performing other such-like acts of slow suicide. Some of their attitudes are exceedingly fantastical; for instance, Bishop Heber saw a devotee hopping about on one foot, having made a vow never to put the other to the ground, which was now shrivelled up, contracted, and useless. Begging holds a conspicuous place among the religious duties of the Hindoos. Mr Ward affirms that an eighth part of the inhabitants of Bengal and Bahar subsist in this manner; thus constituting a mendicant population of upwards of two millions. Religious pilgrimages are held in high esteem, and the holy places have generally been established near the sea, the sources and junctions of rivers, the tops of remarkable hills, hot springs, caves, waterfalls, and places of difficult or dangerous access. All the principal roads are crowded with people hastening to these holy places. Some are held in higher veneration than others, and it is no uncommon occurrence, in the crush and tumult of the multitude to reach these Bethesdas, for numbers

the temple, every image has a
performed before it, and is fur
allowance of food, which, after
time, is served out amongst the a
ings are profusely lavished on
whilst the multitudes without sn
throw themselves into the most t
motions. The various articles of
upon the goddess Kalee, in her
are considered by Mr Ward as

There is no doubt that, at no
bloody deities of the Hindoos we
man sacrifices, and, in confirmat
rites still remain. Children we
thrown into the River Ganges,
put a stop to by the British gov
are still occasionally burned, in
may haunt the spot where they
tail a curse upon it. The *suttee*
burning herself on the funeral
is a well-known rite of the Hin
festival of Juggernaut is celebr
numerous victims. This idol-ca
structure, in which are represen
of Bala Rama and Soobhadra,
and sister. This infernal mach
better name, is dragged along a
by the infatuated multitude, its
the bodies of mangled victims,
themselves before the wheels, an
The most indecent figures are pou
used at the temples. With such
is not a matter of surprise that
very low in India.

From time to time during the
sectaries have arisen amongst t
peculiar objects of adoration a
Brahma, as already observed, is
and Vishnu and Siva, the two
divide in a great measure the
votees. Among forty-three lead
Ward reckons twenty to attach

ugh the spirits of their ancestors may have
he bodies of all beasts, birds, reptiles, and fi
they do not enter into another animal, so
may eat fish with impunity. Rice, with
ilk, and ghee, is their principal diet, although
partake of the flesh of such animals as are
sacrifice to the gods, the laws of the religion
g this.

ahmins, though all eligible to the priesthood,
all follow it. Some enter the military service
st India Company, and others become clerks
ats; but none are permitted to engage in mental
ents, and in whatever state they are found, the
our is paid by their associates, though perhaps
t degree as a in priestly office. So great is the
the Brahmins, that they claim precedence of
d the noblest rajah will partake of food cooked
ed by a Brahmin, whilst the meanest Brahmin
aste that which has been prepared by a Soodra,
that Soodra should occupy a much higher
ivily, than himself. The religion which in-
these arrangements, is found to be almost un-
ble by Christian missionaries, for the adop-
hristianity involves a total change of opinion
institution of society; and it is a melancholy
few except the worst of the Hindoo populace
me proselytes. It is now generally acknow-
hat in order to make any impression on the
f the Hindoos, it will be absolutely necessary
ance with the instruction of the young in va-
nches of useful knowledge, to which happily
mins offer no objection, while such instruction
ally desired by the people.

BOODHISM.

ism, or the religion of Boudh or Bhud, is
ably elevated above either pure paganism or
m, and is deeply interesting from being the
evalent form of religion upon earth. The
of the whole human race being estimated at
000, nearly the one half, or 400,000,000, are
s. According to the account of Mr Howard
in his "Travels in the Burman Empire," to
e are indebted for the following particulars,
n is professed by half of the population of
ao, Cochin-China, and Ceylon; all of Cambeja,
rmah, Thibet, Tartary, and Loo-Choo; and a
rt of Japan, and most of the other islands of
ern seas, are
ith. In some
India it is the
al of Hindoo-
its principal
ld is in the
empire of

is a general
divinity, and
name of any
r god. There
ven innume-
odhs, in diffe-
s, among dif-
erids, but in
d more than
in some not
n this world
ve been four
namely, Kan-
Gau-na-gong,
a, and Gau-
One is yet to
namely, Arre-
h.

Gautama.

often been supposed that Boodhism resembles
ism or Hindooism, which is a great mistake.
ystems can be more opposite or bear less evi-
being derived from each other. Brahminism
rmations, but Boodhism admits of none, for it

whence it extended into China.

The most extraordinary peculiarity of Boodhism is the want of any existing God. Adoration or respect is merely paid to the image of Gaudama, who was a god at a former period, but is now annihilated, or entered into annihilation. Gaudama was the son of a king, and born about 626 years before the commencement of our era. He had previously lived in four hundred millions of worlds, and passed through innumerable conditions in each. In *this* world he had been almost every sort of worm, fly, fowl, fish, or animal, and in almost every grade and condition of human life. Having in the course of these transitions attained immense merit, he at length was born son of the above-named king. The moment he was born, he jumped upon his feet, and, spreading out his arms exclaimed, 'Now am I the noblest of men! This is the last time I shall ever be born!' His height, when grown up, was nine cubits. His ears were so beautifully long, as to hang upon his shoulders; his hands reached to his knees; his fingers were of equal length; and with his tongue he could touch the end of his nose! All which are considered irrefragable proofs of his divinity.

When in this state his mind was enlarged, so that he remembered his former conditions and existences. Of these he rehearsed many to his followers. Five hundred and fifty of these narratives have been preserved—one relating his life and adventures as a deer, another as a monkey, elephant, fowl, &c. &c. The collection is called *Dzat*, and forms a very considerable part of the sacred books. These legends are a fruitful source of designs for Burman paintings. Of these I purchased several, which do but bring out into visible absurdity the system they would illustrate.

He became Boodh in the thirty-fifth year of his age, and remained so forty-five years, at the end of which time, having performed all sorts of meritorious deeds, and promulgated excellent laws, far and wide, he obtained 'nie-ban,' that is, entered into annihilation, together with five hundred priests, by whom he had been long attended. This occurred in Hindostan, about 2380 years ago, or B.C. 546. At his death he advised that, besides obeying his laws, his relics and image should be

sidence there is an elephant o
animal is of immense height, a
head has seven tusks, and eac
each of these tanks grow seven
blossoms; each blossom has
bears up seven palaces, and i
nymphs, or wives of the king,
attendants. Another elephant
uzenas long, on which the kin
thirty-two smaller heads, f
princes. Of the principal hell
by heat, and the other four b

Not only has the universe a
from eternity, but also the so
whether animals, men, or cele
from eternity been transmigra
other, rising or falling in the sc
ment, according to the degree
This rise or fall is not ordere
but is decided by immutable f
these various forms of existen
endured by each soul is incalc
clares that the tears shed by a
changes from eternity, are so
is but a drop in comparison
are declared to be necessary
fore 'the chief end of man'
round of changes, and be anni

The great doctrines of thi
I. The eternal existence of the
2. Metempsychosis. 3. Nie-ba
appearance, at distant period
deification and subsequent ann
ing of merit. Of the first four
already said. The last is m
embracing as it does the whol

Merit consists in avoiding
tues, and the degree of it is th
hist. The sins which are to
in a moral code, consisting of
laws:—1. Thou shalt not kill.
3. Thou shalt not commit adul
lie. 5. Thou shalt not drink

ng bad company, and idleness. Those who
nic-ban are cautioned to abhor sorcery, not
dreams, nor be angry when abused nor elated
roved, not to flatter benefactors, nor to indulge
or biting jests, and most carefully to avoid en-
strife.

ites of the mind are resolved into three classes:
en we are pleased in the possession of agree-
gs. 2. When we are grieved and distressed by
gs. 3. When neither do good things gratify
vil things distress. The last is the best state,
a man is rapidly preparing for nic-ban. In
e is no small resemblance to the doctrine of
, and some approach to the Christian doctrine
dness from the world. Some of their books
n good comparisons, such as, that he who runs
ul enjoyments is like a butterfly who flutters
candle till it falls in; or one who, by licking
om a knife, cuts his tongue with the edge.
scarcely a prohibition of the Bedagat which
ictioned by our Holy Scriptures, and the argu-
pended to them are often just and forcible.

is of three kinds:—1. *Theela*, or the obser-
all the prohibitions and precepts, and all duties
lucible from them; such as beneficence, gentle-
grity, lenity, forbearance, condescension, vene-
r parents, love to mankind, &c. &c. 2. *Dana*,
g alms and offerings. This includes feeding
building kyoungs, pagodas, and zayats; placing
agodas; making public roads, tanks, and wells;
trees for shade or fruit; keeping pots of cool
the way-side for the use of travellers; feeding
s, birds, animals, &c. 3. *Bawana*, or repeat-
ers, and reading religious books.

deeds are meritorious according to the objects
they are bestowed, and proportioned to the
scale:—1. Animals. 2. Common labourers,
n, &c. 3. Merchants and the upper classes,
necessity. 4. Priests. For alms of the first
rewards are long life, beauty, strength, know-
d prosperity, during a hundred transmigra-
r those of the second class, the same during a
transmigrations; for the third, the same
en thousand; for the fourth, a vastly greater
but indefinite, being graduated according to
ce of sanctity the particular priests may pos-

discourses said to have been delivered by Gau-
e given in the Bedagat. In these, the duties
s, children, husbands, wives, teachers, scholars,
slaves, &c., are drawn out and urged in a
which would do honour to any casuist.

llowing is part of one of these, addressed to a
shed personage, who sought his instruction how
evil:—

w thou, that to keep from the company of the
, and choose that of learned men; to give honour
it is due; to choose a residence proper to our
and adapted for procuring the common wants
and to maintain a prudent carriage, are means
rve a man from evil doings. The comprehen-
ll things that are not evil, the exact knowledge
ities of our station, and the observance of mo-
d piety in our speech, are four excellent modes
ncing wickedness.

nistering a proper support to parents, wife, and
y purity and honesty in every action, by alms-
y observing the divine precepts, and by succour-
ions, we may be preserved from evil. By such
m from faults, that not even the inferior part
ature manifests any affection for them, by ab-
from all intoxicating drink, by the continual
of works of piety, by showing respectfulness,
, and sobriety before all, and gratitude to our
ors; and, finally, by listening often to the
g of the word of God, we overcome evil incli-
and keep ourselves far from sin. Docility in
g the admonitions of good men, frequent visits
ts, spiritual conferences on the divine laws,

patience, frugality, modesty, the literal observance of the law, keeping before our eyes the four states into which living creatures pass after death, and meditation on the happy repose of nic-ban—these are distinguished rules for preserving man from wickedness.'

Pagodas are innumerable. In the inhabited parts there is scarcely a mountain peak, bluff bank, or swelling hill, without one of these structures upon it. Those of Pegu and Siam are all formed upon one model, though the cornices and decorations are according to the builder's taste. In general they are entirely solid, having neither door nor window, and contain a deposit of money, or some supposed relic of Gaudama. From the base they narrow rapidly to about mid-way, and then rise with a long spire surmounted with the sacred tee. Some of those around Ava, and especially those at Paghan, are less tapering, and more resembling temples.

Zayats are not exclusively religious buildings. Some are intended to contain idols, and some are for the accommodation of worshippers and travellers, and for town-halls. The majority contain no idols, and are intended only to afford shelter for worshippers and travellers. Some of these are mere sheds, open on all sides; but in almost all cases they are built in a far more durable and costly manner than dwelling-houses.

Every village has a zayat, where the stranger may repose or stay for many days, if he please; and many a time I found them a comfortable lodging-place. Like the chultries of Hindostan, they are of unspeakable utility in a country destitute of inns, and where every house has its full complement of inmates. Many zayats, especially near great cities, are truly beautiful, and very costly. The ceilings and pillars are not only elaborately carved, but completely gilded, and the stucco floors rival marble in hardness and polish.

Worship is not performed collectively, though crowds assemble at the same time on set days. Each one makes his offerings and recites his prayers alone. No priests officiate; no union of voice is attempted. On arriving at the pagoda, or image, the worshipper walks reverently to within a convenient distance, and laying his offering on the ground, sits down behind it, on his knees and heels, and placing the palms of his hands together, raises them to his forehead, and perhaps leans forward till his head touches the ground. This is called the *sheeko*. He then utters his prayers in a low tone, occasionally bowing as before; and having finished, rises and carries forward his gift, laying it somewhere near the idol or pagoda. Some proceed first to one of the great bells which hang near, and strike several times with one of the deer's horns which always lie beneath. When one goes alone, this is seldom omitted. There are four set days in every lunar month on which the people assemble in greater numbers at the pagodas to offer their individual prayers. These days are at the new and full moon, and seven days after each; so that sometimes their Sabbath occurs after seven days, and sometimes after eight.

Boodhist priests are not a caste or hereditary race. Any one may become a priest, and any priest may return to a secular life at pleasure. Thousands, in fact, return every year, without the least reproach. On becoming a priest, a yellow robe is assumed, and celibacy, with numerous mortifications, is enjoined. Their office may be called a sinecure, as they seldom preach or perform any service, except teaching and giving special religious advice. They are of different degrees of rank, and subsist entirely on the contributions of the people. Their number is very great. Ava, with a population of 200,000, has 20,000 priests.

Boodhist priest.

In point of moral obligation, and the inculcation of purity of life, Boodhism is infinitely superior to Hin-

doonism. It has no mythology of obscene and ferocious deities, no sanguinary or impure observances, no self-inflicted tortures, no tyrannising priesthood, no confounding of right and wrong, by making certain iniquities laudable in worship. In its moral code, its descriptions of the purity and peace of the first ages, of the shortening of man's life because of his sins, &c., it seems to have followed genuine traditions.

At the same time, we must regard Boodhism with unmeasured reprobation, if we compare it, not with other false religions, but with truth. Its entire base is false. It is built, not on love to God, nor even love to man, but on personal merit. It allows evil to be balanced with good, by a scale which reduces sin to the shadow of a trifle. To sheeko to a pagoda, or offer a flower to the idol, or feed the priests, or set a pot of cool water by the wayside, is supposed to cancel a multitude of sins. The building of a kyoung or pagoda will outweigh enormous crimes, and secure prosperity for ages to come. Vice is thus robbed of its terrors, for it can be overbalanced by easy virtues."

LAMAISM.

In Thibet, Tartary, and other parts of central Asia, inhabited by the Mongolian race, Boodhism assumes a different form and name, being more a religion of pure priestcraft and external observance, and including a belief in the continual personal presence of a supreme God. This branch of Boodhism, as it is believed to be, is usually called Lamaism, the word *Lama* literally signifying priest. Like Boodhism, this religion acknowledges no eternal, self-existent being. The idols, to the number of a hundred and eight, are representatives of created beings, who ascended into the rank of gods before the present world was created, on account of their holiness. The chief god is Shigemooni, who appeared in the world for the last time a thousand years before the Christian era, and then instituted Lamaism, with a visible living representative or appearance of himself, called Dalai-Lama, or the Great Lama. The worship of this Grand Lama, therefore, is a principal feature in the system of belief.

It is understood and inculcated, that when the Grand Lama expires in the course of nature, his spirit immediately takes possession of some other body in a supernatural manner, which it is impious to inquire into, and is only comprehended by the attendant priests. In point of fact, the religion which inculcates this absurdity is idol worship under a different name, the idol being a living creature instead of an inanimate object, as in ordinary paganism; and the whole system seems to have been devised in order to support a numerous host of priests and religious establishments.

Dalai-Lama, or the Grand Lama, is at the head of both ecclesiastical and secular affairs in Thibet, which may be considered a theocratical state. The usual residence of the Dalai-Lama is in two monasteries situated in the vicinity of the capital, Lassa, in each of which he dwells alternately. He is surrounded in every direction by a vast number of priests; but no woman is permitted to pass the night in the building where he lodges. This arises, undoubtedly, from the purity which is attributed to him, for he is called the *immaculate*. The natives, as well as a great crowd of foreigners (for all the Mongol tribes in Russia acknowledge him), undertake fatiguing pilgrimages in order to pay their homage to him, and obtain his blessing. He receives them sitting upon a kind of altar, upon a large and splendid seat, with his legs crossed. The Tartars, next to the inhabitants of Thibet, pay him the greatest reverence. They come to him from the most distant regions, and the princes, to whom he shows no more respect than to others, submit to the same ceremonies as their people. He salutes no one, never uncovers his head, rises up before no one, and is satisfied with laying his hand upon the head of his worshipper, who believes that he has thereby obtained the pardon of his sins. His worshippers believe that the supreme divinity lives in him, that he knows and sees every thing in the deepest recesses of the heart, and never needs to make [illegible] in regard to any thing. If he does this, it is [illegible] unbelievers and the evil-minded may not [illegible] for complaint. He sometimes distributes, it [illegible] little balls of consecrated dough, which the Tar[illegible] in many superstitious practices; but it is not [illegible] balls made from his excrement are distribute[illegible] served in golden boxes, and even mixed with [illegible] of food. His power was once greater than it [illegible] and he appointed and deposed the khans; but [illegible] sent he is dependent on the Emperor of China, [illegible] the latter, in a religious respect, is subjected [illegible] Two Chinese mandarins, with a garrison of 10[illegible] nese, are maintained in his capital, and, in the [illegible] at Pekin, the Chinese Emperor supports a suba[illegible] Lama, who is sent as a nuncio from Thibet.

When the Dalai-Lama dies, it is then neces[illegible] discover where his spirit has chosen to be bor[illegible] In this case all must submit to the opinion of [illegible] the Lamas, who alone are acquainted with the [illegible] which he may be known, or, rather, who kn[illegible] child the deceased has appointed for his su[illegible] The worshippers of the Lama are divided, in[illegible] into two sects, known by the titles of the *yel[illegible] red caps*. Each sect is under three Lamas; [illegible] mer is under the Dalai, Teeshoo or Bogao, as[illegible] naut Lamas; the latter, under the three sha[illegible] The Dalai-Lama is the most distinguished of [illegible] next to him is the Teeshoo-Lama, who dwells [illegible] shoo-Loomboo, ten days' journey from Lassa[illegible] three shammars dwell in separate monasteries, t[illegible] distinguished of which is at Tassasudon, the ca[illegible] Bootan. Subordinate to them are numerous pr[illegible] different ranks, who are held in great respe[illegible] superintend instruction, and some of whom li[illegible] state of celibacy, according to certain rules, sim[illegible] those of the Christian monks. At Lassa alon[illegible] are 3000 monasteries.

MAHOMETANISM.

The religion of Mahomet, or Mahomed, and Mahometanism, partakes of a much more exalt[illegible] racter than any of the mythological superstiti[illegible] ready adverted to, inasmuch as it approaches [illegible] theism, or a belief in the one true God. This [illegible] religion, which now prevails in Arabia, Egy[illegible] Moorish states, Turkey, Persia, and is extende[illegible] scattered manner over south-eastern Asia, and n[illegible] 100,000,000 of followers, originated in Arabia [illegible] beginning of the seventh century of the Christia[illegible]

At this period, eastern countries were in a cond[illegible] receive a new and vigorously conducted form of re[illegible] belief. The scattered branches of the Christian [illegible] in Asia and Africa were at variance with each [illegible] and had adopted the wildest heresies and superst[illegible] They were engaged in perpetual controversies, an[illegible] to pieces by the disputes of the Arians, Sabellians[illegible] torians, and Eutychians; whilst the simony, the [illegible] tinence, and general barbarism and ignorance [illegible] were to be found amongst the clergy, caused [illegible] scandal to the Christian religion, and introduced [illegible] versal profligacy of manners amongst the people. [illegible] Christianity, in the manner it was abused by [illegible] lightened followers, was of little avail in civilisi[illegible] Asiatics, while the religion of the Jews was sun[illegible] comparative insignificance, and while paganism [illegible] flourished in the east, Mahometanism was intro[illegible] upon the scene, and in a wonderfully short per[illegible] time, gave an entirely new cast to manners and [illegible] of belief. Arabia being the country in which thi[illegible] religion was first promulgated, it is considered [illegible] able to mention the nature of the religion whic[illegible] people previously professed and now abandoned.

"The ancient Arabs are supposed to have been [illegible] are termed pure theists; that is, they are suppo[illegible] have believed in and worshipped one sole, omnip[illegible] and everlasting God. Historians, however, hav[illegible] dom correctly appreciated the meaning of these m[illegible] ficent expressions in the mouth of a savage.

et hour, by a sacrifice of sheep and camels, urial of their hair and nails in the consecrated ". The Arabians had many other superstitions ; they held their women in a degraded rank, nd, though refined in some points of manners, no written law, were governed despotically and were really barbarians and idolaters. It ebased religion of this people which Mahomet to improve, and we have now to see who this bold and ingenious man was, and how he is plans into execution.

et was born at Mecca, the capital city of Felix, A.D. 569, during the reign of Nouschirwan the Just, King of Persia. He was of the Hasebem, and of the tribe of the Koreish, the Arabia. His father Abdallah was a younger dalmotalleb, and dying very young, and in his fetime, left his widow and infant son in very cumstances, his whole substance consisting e camels and one Ethiopian female slave. Abeb was therefore obliged to take charge of his d Mahomet, which he not only did during his t his death enjoined his eldest son, Abu Taleb, brother to Abdallah by the same mother, to ir him for the future. This was very ably performed by Abu Taleb, who instructed him siness of a merchant, which he followed; and d he took young Mahomet into Syria when ut thirteen years old, and afterwards recommim to Khadijah, a noble and rich widow, for r, in whose service he behaved so well, that, g him her husband, she soon raised him to an with the richest in Mecca.

after he began, by this advantageous match, his ease, that he formed the scheme of estaa new religion, or, as he expressed it, of re- the only true and ancient one professed by oah, Abraham, Moses, Jesus, and all the prodestroying the gross idolatry into which the of his countrymen had fallen, and weeding orruptions and superstitions which the latter Christians had, as he thought, introduced religion, and reducing it to its original purity, sisted chiefly in the worship of one only God. pan began to affect solitude, usually retiring th in the year to a cave in Mount Hara, near He had indisputably a very piercing and ellect, and was thoroughly versed in all the sinuation. The eastern historians describe ve been a man of an excellent judgment and memory; and these natural parts were ine y a great experience and knowledge of man- the observations he had made in his travels. resented as a man of few words, of an equal, emper, pleasant and familiar in conversation, sive behaviour towards his friends and acses, and of great condescension towards his ; to all which were joined a comely agreeable nd a polite address—qualities of no small n prepossessing those in his favour whom he l to persuade.

n the prophet was about four years old," says the Arabian,† "accompanying the sons of his n the field, the blessed child retired into a cave, nt of the mountain Uriel, to pray, when the l Gabriel appeared to him, and said, *Bismillar rahimi*; that is, 'In the name of God, compasnd merciful, O child greatly beloved, I am sent t from thy heart the root of evil; for thy Lord made the gates of Paradise to fly open!' The signed one said, 'The will of thy Lord and bene.' Then the angel opened his breast with adamant, and, taking out his heart, squeezed the black contagion which was derived from nd having put the child's heart in its place blessed him, and retired to the invisible

ife of Mahomet.—Library of Useful Knowledge. Turkish Spy, vol. v. p. 98.

that the Angel Gabriel had appeared to him in glory, and declared that God had commissioned him as an apostle to reform the world; *that he then delivered to him the Koran for a divine law,* which should complete all antecedent revelations. Khadijah gained for her husband an important proselyte in her uncle Waraka, a Christian, who was well read in the Old and New Testaments. He pronounced Mahomet "*to be the great prophet foretold by Moses the son of Amram.*" It is much more probable that Waraka was the assistant of Mahomet in composing the Koran than Sergius the monk, or any other person.

The next proselyte was Abubeker, a rich and respectable inhabitant of Mecca; and his example being followed by many others, Mahomet ventured on a bolder demonstration of his mission. At a numerous assemblage of the Koreishites, at a public entertainment to which he had invited them, he demanded who would become his vizier, or prime minister, assuring them that both happiness in this world and in that to come would accrue to his followers. The guests remained silent in surprise, when Ali, the son of Abu Taleb, a boy about fourteen years of age, started up enthusiastically, and said, "I will be thy vizier, oh Prophet of God! I will break the teeth, pluck out the eyes, rip up the belly, cut off the legs of thine enemies." The joy and approval testified by Mahomet to the zeal of his youthful disciple, was an apt and early specimen what manner of spirit he and his deputy were of. The hostile proceedings and denunciations of the prophet against their idolatry, at length aroused the enmity of the Koreishites; but their threats were despised by him, and, in reply to the prudent remonstrances of his uncle Abu Taleb, he exclaimed, "Though the Koreishites should arm against me the sun and the moon (alluding to the divinities whom they ignorantly worshipped), the one on my right hand, and the other on my left, I would not be shaken from my resolution." He, however, retired for a while to a castle in Mount Safa, and his followers were banished from the city of Mecca. After this persecution, which lasted five years, in the tenth year of his mission (A.D. 618), he sustained a serious

to the throne of God, which was in th
Gabriel left him at the entrance of it, a
returned from conversing with God, w
offer to be next himself; but he rather
again to the earth to propagate his religi
were all 500 years' journey distant fr
One was of silver, another of gold, anot
&c., and the last of light. He met s
patriarchs or prophets in each of the
he met and discoursed with Adam; in
John the Baptist and Jesus; in the
patriarch Joseph; in the fourth, with
in the fifth, with Aaron; in the sixth,
the seventh, with Abraham. Thence
up to *Sedrat*, the lotus tree, whence w
of the four rivers of Paradise. He sa
likenesses of all creatures in these he
a great bull bearing the earth on his h
he shook his head there was an eart
was also a cock, which stood on one
head reached another; his voice was
heaven and earth, and set all the coc
crowing. He saw an angel of such sta
was 70,000 days' journey between his
portion of a man's height to the distan
eyes is as seventy-two to one; so that
then have been 14,000 years' journey,
height of all his heavens together, i
quite out of his mathematics. In the
where God and Christ were, was an an
heads; and in each head 70,000 tongu
he praised God. Gabriel accompanied
heaven to Jerusalem, and from thence
with the beast Alborak, to Mecca; a
done in the tenth part of a night. In
of this extraordinary fabrication, he ski
when he was enjoined to repeat fifty pr
he entreated for his nation, and they
duced at his intercession to five. To fin
he was returned back to the Caaba ere
him to prayers; and "thus," concluded
I bring with me the prescribed number

as from this period that Mahomet, having fully
ived the hate of his enemies and the extent of
power, proceeded to lay aside the arts of per-
and patient endurance, whereby he had hitherto
to propagate his tenets; and, elated by the devo-
his disciples and his reception at Medina, he
henceforth the revelations of the Koran in a
ich proclaimed him a persecutor, and empowered
owers to make war against all opposers. The
ful battle of Beder followed soon after; and he
ade known those doctrines which have rendered
ns of the Mussulmans so formidable, namely,
o one can escape his destiny; insomuch as the
hose days are not complete will escape unhurt
showers of arrows, when his whose fatal term has
cannot escape death by any precaution what-
" The second incitative is that which the pro-
ension furnished him with:—"The sword," sa-
the prophet, "is the key of heaven and of hell;
of blood shed in the cause of God, a night spent
rms, is of more avail than two months of fasting
ayer. Whosoever falls in battle, his sins are
n: at the day of judgment, his wounds shall be
dent as vermilion and odoriferous as musk; the
his limbs shall be replaced by the wings of angels
cherubim."

victory, the first of Mahomet's battles, was
in the second year of the Hejira, over the Mek-
freemen, headed by Abu Sofian, in the valley of
which is situated near the sea, between Mecca and
. Mahomet's forces consisted of no more than
n, and the enemy's army of near 1000; notwith-
g which odds, he put them to flight, having killed
of the principal Koreish, and taken as many
rs, with the loss of only fourteen of his own men.
st victory, although it may seem no very consi-
action, was yet of great advantage to him, and
ndation of all his future power and success; for
reason it is very famous in Mahometan history,
frequently vaunted of in the Koran as an effect
livine assistance, through the miraculous inter-
of the Angel Gabriel. The gaining of the battle
owever, wholly attributable to the extraordinary
m of Mahomet, by his expedient, at the critical
, of scattering a handful of dust against his
s, at the same time exclaiming, "Let their faces
founded!"—which action so invigorated his faint-
owers, that they charged and overthrew their
Mahomet captured the whole caravan, which
d of 1000 camels, richly laden, from Syria; and
rded him the means of rewarding his followers,
iting them to further exertion by the allure-
of wealth and the hope of plunder.

reckon as many as twenty-seven expeditions
Mahomet was personally present, in nine of
e gave battle; besides several other expeditions,
ken by his orders, in which he was not present.
ons he maintained partly by the contributions of
owers for this purpose, which he called by the
f *zacat*, or alms, and the paying of which he
tfully made one main article of his religion; and
by ordering a fifth part of the plunder to be
t into the public treasury for that purpose, in
matter he likewise pretended to act by the divine
n.

few years, by the success of his arms, he eas-
ly raised his prophetic character and power.
sixth year of the Hejira, he set out with 1400
visit the temple of Mecca, not with any inten-
committing hostilities, but in a peaceable man-
However, when he came to Al Hodeibiya, which
ted partly within and partly without the sacred
y, the Koreish sent to let him know that they
ot permit him to enter Mecca unless he forsook
; whereupon he called his troops about him,
y all took a solemn oath of fealty or homage to
nd he resolved to attack the city; but those of
sending Arwa Ebn Masud, prince of the tribe
if, as their ambassador, to desire peace, a treaty

ance of his faith, were ratified subsequently on the hill El Safa. Having visited the holy building of the Caaba, and broken in pieces the idols wherewith it was encircled, Mahomet went in procession seven times round the building, and touched respectfully the black stone which was held sacred by the Arabs; then entering the edifice, he repeated the formulary, "*God is great.*" Afterwards he went to the well Zemzem—which is believed by them to be the same that the angel showed to Hagar—drank of the water, and performed the required ablution. Artfully blending attention to exterior observances with zeal, and pursuing a mixed system of mercy and rigour, he subdued the hearts of his high-minded countrymen, and soon superadded to his claims of power the more imposing and indissoluble bonds of superstitious reverence and awe. The capture of Mecca, and the submission of the powerful race of the Koreish, was soon followed by the conversion to Islamism of most of the remoter pagan tribes, until all Arabia bowed the neck beneath his yoke.

Mahomet, having thus become master of all Arabia, made great preparations for the conquest of Syria; but this vast enterprise was reserved for his successors. He gradually, however, paved the way for their successes, and brought the celebrated region of Arabia into one complete and powerful union. He established the law which still obtains in all the Mussulman states, of imposing a personal tax on such subjects as do not embrace Islamism. By this custom, still subsisting among all the sovereigns who acknowledge the Koran, every reputed infidel pays a *kharaj*, or capitation-tax, over and above the imposts which he supports equally with the rest of the subjects. He absolutely prohibited all idolators from making the pilgrimage to Mecca, or any foreigner from entering the Caaba, under pain of death. These were strokes of profound policy. He retained the pilgrimage to Mecca, which had been of ancient standing among the descendants of Abraham and Ishmael. Though he destroyed the images used at Mecca as objects of idolatrous worship, he carefully retained the holy relics of the black stone and the supposed impression of Abraham's foot. The black stone had been immemorially venerated there; the angels, the close of his extraordinary and for
His health had been for three years o
but he had neither relaxed his duties n
Being at length affected with a mortal n
conveyed to the house of his favourite
where he expired, in the eleventh year
(A.D. 632), in the sixty-first year of h
his wives, the first alone bore him any chi
only his daughter Fatima, wife of Ali, s

Having thus presented a sketch of t
remarkable man, we proceed to a notice
which he founded. As already mentio
must be viewed chiefly in the light of a
the old modes of belief and practice of
and his merit (if we may so call it) in t
pears to have been the combining of a
gious opinions into one form of faith, s
implicit belief in his own prophetical
enunciating the whole of his code in
the Koran. At the period of his deat
character both of a divinely appointed
of a secular prince, the latter being gain
quests; and his successors claimed the
qualification. After the prophet's de
tion of a successor occasioned considerat
his father-in-law Abubeker, and his
cousin Ali, each claiming the office of
beker was finally successful in the comp
as is known to the readers of history, wa
the ferocious Omar. Ali became the
but he was summarily cut off by poison;
long contests which afterwards occurre
to say in what line the caliphate was ulti

The Koran, or prescribed record of t
faith, consists of 114 chapters, each w
title, but varying in length from a
to several pages. No continuous subje
to run through the work, each chapter
form either of a separate revelation, or
peculiar matter in faith, morals, or law.
titles to the various chapters, we find th
The Cow; the Family of Imran; Wome
Jonas; Joseph; Abraham; The Night

that they have some prayers of Moses, Jonas,
rs, a book called the Psalms, which consists of
from our version mixed up with other matter,
story of Christ, said to be written by 24 Bar-
In this book, Christ is made to predict the
of Mahomet under the title of "Famous," that
e signification of his name in Arabic. Accord-
radition, there have been from time to time no
ess 224,000 prophets sent into the world; and
, 313 were apostles, charged with commissions
m mankind from the infidelity into which they
en. Six of them, namely, Adam, Noah, Abra-
ses, Jesus, and Mahomet, were sent especially
ulgate new laws or dispensations. The Maho-
believe some of these apostles to have been
to the others; to the last six, for instance, they
first place. They believe them to have been
n great sins, although not perfectly pure, and
y all professed the same religion. In this list
ets they introduce many whose names are unk-
n scripture as patriarchs, such as Adam, Seth,
, and also many others who are not mentioned
ered writings. But of all the prophets of God,
an enforces the leading doctrine that Mahomet
reatest, and that his mission is to be believed
r the most severe penalties. "God will render
ffect the works of those who believe not, and
n away men from the way of God: but as to
se believe and work righteousness, and believe
velation which hath been sent down unto Ma-
for it is the truth from their Lord), he will expiate
il deeds from them, and will dispose their heart
When ye encounter the unbelievers, strike off
ads, until ye have made a great slaughter among
and bind them in bonds: and either give them
dismission afterwards, or exact a ransom, until
riors shall have laid down their arms. This
do."—Chap. xlvii. From numerous passages
kind, the Mahometans have framed the brief
tion of their belief—"There is no God but God,
homet is his prophet," a saying which is ever
mouths, and may be called their popular

rding the resurrection, the Mahometans believe
en a dead person is laid in the grave, he is re-
by an angel, who gives him notice of the coming
o *Examiners*. These are two black angels, of a
appearance, named Monker and Nakir. They
e dead person to sit upright, and examine him
ing his faith in the unity of God and the mission
met. If he answer correctly, his body is allowed
rest, and is refreshed with the air of paradise;
appear sceptical, they beat him on the temples
n rods, till he cries with anguish so loud as to
d by all except men and genii. As to where the
ells after death, the Mahometans seem to have
y of opinions, which need not be particularised.
etans are also divided as to the nature of the re-
on, some believing that it will be merely spiri-
ers that the body only will be raised; but it is
that all who have ever lived will appear for
nt. It is likewise believed that the irrational
will be judged at the resurrection, and weak
will take vengeance on the strong until satis-
is given to the injured. The Koran enjoins
s to all animals whatsoever, although it pro-
some to be unclean; and it is allowed that the
of Mahometans in this respect far excels that
enerality of Christians.
supposed by the more orthodox Mahometans,
books wherein the bad actions of a man are
ed will be put into one scale, and the good into
; and according as these preponderate, sentence
given. After this will follow the satisfaction
ery one takes of his fellow, or the retaliation
them for the injuries they have received. The
of giving this satisfaction will be to take away
e man a portion of his good works and give to
whom he has injured. "What, never, never?"

grees of sinners." The first is destined to receive the wicked Mahometans, the second for the Jews, the third for the Christians, and the rest for other sects and unbelievers. Over these will be placed nineteen angels, to whom the condemned will confess the justness of God's sentence, and beg them to intercede with him in their behalf. The punishment of infidels will be continued for ever, but wicked Mahometans will be released after a certain period of suffering.

Before entering paradise, the righteous will drink at the pond of Mahomet, which is supplied with water from the rivers of paradise. It is described as a month's journey in compass, and whoever drinks of the water will thirst no more. It is a matter of keen dispute whether paradise is already created, many supposing that it will be different from the paradise in which Adam was placed. The more orthodox opinion, however, is, that it is the same, and that it was created before the world. It is supposed to be situated above the seven heavens, immediately under the throne of God, and is described as a place of great beauty. The trunks of the trees are of gold, one of which, the tree of happiness, will yield all sorts of fruit for the consumption of true believers.

God's absolute decree and predestination of both good and evil, is a doctrine which Mahomet always took occasion to impress upon his followers. He said that God had not only predetermined the adverse or prosperous fortune of every person in the world, but also his faith or infidelity, which fate it is impossible by any foresight to avoid. By this doctrine, Mahomet taught his followers to have the greatest contempt for danger, which was of material service to him in the propagation of his creed.

Of the four points of religious practice required by the Koran, prayer is the first. Mahomet included under this act purifications of the body, by total immersion at certain periods, and by washing the face, hands, and feet, at others. To make his followers punctual in the observance of these purifications, Mahomet declared that the practice of religion is founded on cleanliness, without which prayer would not be heard by God. A

tice of Mahometans. These consist o
corn, fruits, and wares which can be sc
of the fast of the Ramadan, every Maho
to give in alms, for himself and for e
family, a measure of wheat, barley, da
or other provisions. "The legal alms,
" were at first collected by Mahomet h
ployed them as he thought fit in the re
relations and followers, but chiefly app
maintenance of those who served in his
as he termed it, in the way of God.
continued to do the same, till, in proce
taxes and tributes being imposed for th
government, they seem to have been
as almoners to their subjects, and to h
ing of them to their consciences."

Fasting is the third point of religious p
the Mahometans. It consists in abstai
fying the appetites; in restraining the ea
hands, feet, and other members, from s
ing of the heart from worldly cares,
nothing but God. During the month o
Mahometans are obliged to fast from th
moon first appears till the appearance o
moon. In this month they abstain fr
drinking from daybreak till sunset; an
they observe so strictly, that while they
nothing to enter their mouths or the ot
body, esteeming the fast broken if they
bathe, or even purposely swallow the
old and the sick are exempted from t
the case of the latter, when they rec
fast the same number of days. After su
are allowed to refresh themselves—to
enjoy the company of their wives till c
more rigid, however, commence the fa
night.

According to the injunctions of the
man is to perform a pilgrimage to M
his life, except prevented by poverty
It is clear that such an observance is a
plicable to the condition and situati

he Almighty was its author, and he is all-wise; ever, is as wise at one time as another. How, all we pretend to amend the divine ordination, that he himself need amend it? The sophis- resistible, provided the premises be allowed. ons who have assumed the Moslem faith have ntly remained, and, while professing it, will barbarous."

f the worst features of the Mahometan faith is aded position which it assigns to women. This, forms a radical error in the constitution of so- Mahometan countries, and must be removed ere can be a steady advance in refined ci- ot. Women are considered in every respect to men. Few of them, even among the highest receive any instruction; they are carefully se- rom public observation; assigned in marriage their own consent, on payment of a trifling sum of dowry; and are divorced at pleasure—all ods to debase their minds, and to produce the d of social vices. Polygamy and legal concu- dd to the evils caused by such practices. The llows a man to marry four wives, and to main- many concubine slaves as he may choose. He orce any of his wives at any instant which r passion may suggest, merely by uttering the words, "Thou art divorced!" and she must her parents or friends accordingly. He may again as a wife, and again divorce her; and orce her a third time, provided she has in the been married to and divorced from another r Lane, in his work on Egypt, says, that he n cases in which men have, in the course of a s, married as many as twenty or thirty wives; cases of women who had been married to a more men successively. In most instances, told, a man marries no more than one wife; ese practices are common, we can easily judge epravity of manners which prevails in those professing the Mahometan creed.

the manner in which females are treated, it n generally supposed by Christians that the tans believe that women have no souls. But mistake. Women are believed to have souls, not to be excluded from paradise, though they to perform offices of a subservient nature. most person in paradise, it is believed, "is to nty thousand servants, and seventy-two wives ls of paradise, besides the wives he had in this hat he is to inhabit a tent composed of pearls, and emeralds; at meals he will be served in gold; and he is to be at liberty to drink freely ne of paradise, which will not intoxicate." In mises of felicity, we have a striking proof of ideas of eternal happiness formed by the pre- well as of his knowledge of mankind.

oran forbids the use of wine or any intoxicating and this is among the best injunctions which it . Opium and other inebriating drugs are under- fall within the line of prohibition, though not d. The use, therefore, of either intoxicating drugs, is considered immoral in all Maho- ountries. Musulmans of all ranks are remark- their sobriety and temperance in food. The swine's flesh is strictly prohibited; and, indeed, mals forbidden to be eaten by the Mosaic law forbidden by that of Mahomet. All animals food must be killed by cutting their throat; and, rming the operation, the butcher must say, "In e of God! God is most great!" Gambling is hibited; also usury, and the making of any r pictorial resemblances of any thing that has rhaps the desire to extinguish idolatry influ- s prophet in laying down the last-mentioned stacy from Islamism is deemed a most heinous must be punished with death.

Mahometan creed enjoins no sabbath, like that the Jews or Christians, but selects Friday, as the week to be distinguished by more than

Levitical law, and also acquainted with the arrangements of the Christian church, it is remarkable that he instituted no order of clergy, but, on the contrary, left his religion to be professed by the people at large, without any distinction as to rank or qualification. On this account, Mahometanism has no priesthood, and cannot be said to constitute in any country what we understand by the term church. Wherever it is established as the religion of the community, *mosques* or chapels have been erected, generally by endowments from wealthy individuals; and these are individually under the charge of a warden, who is custodier of the revenues, and appoints the ministers of religion and inferior servants. "Two imams are employed to officiate in each of the larger mosques: one of them, called the *khateeb*, preaches and prays before the congregation on the Friday; the other is an *imam ratib*, or ordinary imam, who recites the five prayers of every day in the mosque, at the head of those persons who may be there at the exact times of those prayers: but in most of the smaller mosques both these offices are performed by one imam. There are also to each mosque one or more *muezzins* (to chant the call to prayer) and *bowwabs* (or doorkeepers); and several other servants are employed to sweep the mosque, spread the mats, light the lamps, and attend the water-wheel by which the tank or fountain, and other receptacles for water, necessary to the performance of ablutions, are supplied. The imams, and those persons who perform the lower offices, are all paid from the funds of the mosque, and not by any contributions exacted from the people. The condition of the imams is very different, in most respects, from that of Christian priests. They have no authority above other persons, and do not enjoy any respect but what their reputed piety and learning may obtain them: nor are they a distinct order of men set apart for religious offices, like our clergy, and composing an indissoluble fraternity; for a man who has acted as imam to a mosque may be displaced by the warden of that mosque, and, with his employment and salary, loses the title of imam, and has no better chance of being again chosen for a religious minister than any other person competent to perform the office. The

of the Almighty, and is supposed to l
natural powers. Almost every ce
ceased, is honoured by an anniversa
and on occasion of these festivals,
the tomb of the saint, both as a dut
means of obtaining a special ble
various classes of saints, there are
durweeshes, or dervises, some of wl
ging, and others by performing at
a few devote themselves to religious
a character for exalted piety.

Mahometanism, from shortly aft
founder, has been divided into two g
who split upon the disputes concer
or spiritual and civil supremacy, an
of *Sunnites* and *Shiites*. The Sunni
lation from the *Sunna*, or collectio
lating to Islamism, which they beli
importance with the Koran. The t
heretics, which they are called by
from their misbelief. The adherer
that Ali, son-in-law of Mahomet, w
cessor, reject the Sunna. The Turk
the Persians are Shiites, and each h
implacable animosity. The Sunnit
reckoned the orthodox sect, and ack
ing sultan as the true successor of M

Besides differing as to the credi
and the successorship of the proph
world is divided into four minor se
Shafees, *Malikees*, and *Hhambelees*,
the respective doctors whose tenets
"The Turks," says Mr Lane, "a
which is the most reasonable." A
last century a great schism, or atte
broke out in Arabia, headed by Mol
Wahab, a pious and learned sheikh.
claimed divine inspiration, and taug
(the doctrines of which he but part
existence of an only God, the Creat
rewarder of the good and the punis
he rejected all the stories contained
cially those concerning Mahomet, w

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SUPERSTITIONS.

have in all ages been prone to the most superstitions. The enlightened nations of rere no more exempted from them than the ant. The Jews, as we are repeatedly in- Scripture, could with difficulty be restrained trous and superstitious practices, and con- worship and service of the only true God. rkable tendency of the Hebrew nation was hood caused by their sojourn for the space ndred years among the Egyptians, whose m of religion was a mass of idolatrous ob-

They had a number of ideal gods to whom d temples of prodigious size and architectural the principal of these deities were Osiris hich are thought to have been typical of the on. But they also offered worship to various the ox or bull (hence the golden calf of the to which they gave the name of Apis; the lf, the hawk, the ibis or stork, the cat, and tures; they likewise paid adoration to the nifying it in the crocodile, to which temples ed, and priests set apart for its service. The notwithstanding their learning, also believed lucky and unlucky days, omens, charms,

In a word, they were grossly superstitious, o have had but a feeble conception, if any, which regulate the ordinary phenomena of

urdities of Egyptian superstition formed a hat followed among the Greeks and Romans, idea of an omnipresent and omnipotent God, and ruler of the universe. Their notions of e those of other pagans, were grovelling and le. The gods whom they adored were ima- ve been at one period rulers or heroes on still had their habitation somewhere within n territory, or at no great distance from it. ir belief in this vain mythology, both Greeks ns put faith in divination, oracles, the magical mulets, and dreams. Bees, ants, and various d beasts, were imagined to have the power of ns of good or bad fortune. The phenomena sphere and planetary bodies were likewise a ce of superstitious delusions. The appear- nets, and also eclipses, were ominous of great sters, it being the general belief that they al signs made by the gods to warn mankind hing troubles; in all which we see a lament- of the follies to which even a refined people posed, if ignorant of the laws of nature.

erstitious delusions of the Greeks and Ro- be said to have died out at the final dismem- the Roman empire, and the overrunning of rope by the Gothic nations. The introduc- istianity also tended powerfully to root out erstitious usages, though a few survived to s. For these reasons the superstitions and matters of credulous belief which afterwards affected the people of northern and western Europe, including the British islands, were in a great measure of Scandinavian and Gothic origin. The only superstitions of eastern growth worth mentioning, which were perpetuated in Europe generally, was that of astrology, or a belief that the stars exercised an influence over the destiny of mortals; and alchemy, or the pretended art of transmuting the baser metals into gold; both of which delusions finally vanished before the light of knowledge that spread abroad in the seventeenth and eighteenth centuries.

SCANDINAVIAN SUPERSTITIONS.

The superstitions of the European Northmen, or Scandinavians—under which term are included the early inhabitants of Denmark, Norway, Sweden, and Iceland —were of a kind remarkably accordant with the cold and stern character of the regions which they occupied. Like the ancient Greeks, the Scandinavians had seats of the gods and of the blest, which they called Asgard and Walhalla (or Valhalla), and these bore the same relation in their character to the Olympus and Elysium of the Greeks, that the countries of the north, with their stormy climes, their icy mountains, and perilous waters, bore to the perfumed and verdant plains of Hellas, and the fair blue skies overhanging the smooth Ionian Sea. Nothing could afford better proof of the utterly fanciful nature of all these mythologies, than the fact that they were thus modelled and modified in every case by the earthly habits, likings, territorial position, and ignorance of geography and astronomy, of the individual tribes among whom they respectively originated.

The deification of one or more great princes or rulers seems to have constituted the basis of the Scandinavian as well as of every other pagan mythology. Odin, the supreme deity of the Scandinavians, and the ruler of heaven and earth, appears, like the Hellenic Jupiter, to have been a distinguished chief and warrior of early times. Although it is asserted by some that a divinity of the name of Odin was worshipped from the most remote ages, there is reason to believe that the worship of this personage, in the north at least, had its real origin a few centuries before the commencement of the Christian era, when a powerful chieftain of the name was driven by the Romans from his dominions between the Euxine and Caspian, and took refuge in Scandinavia, the whole of which he subjected to his sway. Like Mahomet, this chief appears to have established a new religion, of which he himself assumed to be the earthly head, as the servant or minister of a divine being of the same name. In the course of time, however, this distinction was entirely lost, and the persons and acts of the divine and earthly Odin became inextricably blended in the mythology and traditions of the north. The great records of the religious and legendary knowledge of the

Scandinavians, are the Eddas and Sagas of Iceland, partly written in poetry and partly in prose. The oldest of the Eddas, a series of poetical fragments, was collected from oral tradition in the eleventh century, and the others are of later date. The acts of the deities and heroes of the north, the creation of the world, and prophetic revelations, form the general subject of these pieces.

The Scandinavians, like the Greeks, believed that the universe was originally a chaos, or mass of confused vapours, peopled by a race of Rimthursar, or evil spirits of gigantic bulk. A being of nobler nature sprang up among these, named Bure, from whom were descended Odin and his two brothers Vile and Ve. These younger divinities followed exactly the same course with the northern giants, that was pursued by Jupiter and his brothers with regard to the Titans, or older and gigantic deities of Greece. Odin began to war with the Rimthursar, and having at last overcome their great chief Ymer, he created the world out of that giant's body. His flesh became the mould, his bones the rocks, his hair the vegetable tribes, his blood the ocean, and his skull the heavens, at the four corners of which were placed certain dwarfs, called North, South, East, and West, whose duty it was to sustain the celestial dome. After this, the luminaries of the sky were set in their places, and the order of the seasons appointed. Natt (night) wedded one of the Aser, or celestial family of Odin, and gave birth to Dag (day). These deities travel alternately round the world in cars, drawn by single horses. Every great body, as in the Grecian mythology, was represented by a divinity. Frigga, or the earth, was the daughter of Odin, and also became his wife. The inhabitants of the earth, or mankind, were created by Odin and his brothers. Two pieces of wood, the one of ash and the other of elm, formed the materials of the first pair of mortals, who were distinguished for personal beauty and intellectual ability.

The race of deities inhabited Asgard, a place supposed by some to have been the city in Asia whence the real or mortal Odin was expatriated. The fabulous Asgard was pictured as containing numerous palaces and halls, the largest of which was the Mansion of Joy, where Allfader (Odin) sat on his throne amid his divine family. This throne was named Lidskialfa, or the Terror of Nations, and from it he could overlook the whole earth. Two ravens, Hugin (Spirit) and Muninn (Memory), sat always at his ear, and communicated to him intelligence of all things that were going on in the universe. Among the deities who dwelt in Asgard, one of the most important was Thor, or Asathor, son of Odin by Frigga, and the Mars, or warrior-god, of the Scandinavians.

Thor is described as the god of thunder, and the strongest of beings, earthly or heavenly. He is the son of Odin and Frigga, or, in other words, of the Sun and the Earth. When he moves, the earth trembles. He holds in his hand a powerful hammer, called the Crusher (*miölner*), with which he annihilates all who oppose him, and who offend the gods. In battle Thor is always girt with a magic girdle, which has the power of inspiring him with a divine fury, and redoubling his strength. On his right hand he wears an iron gauntlet, with which he grasps and wields the formidable crusher. This latter instrument was forged by a dwarf, named Sindri, the prototype of the deformed blacksmith-deities of the Greeks, Vulcan and his Cyclops. The hammer possesses the wonderful power of never missing its aim, and when launched at any object, returns to the hand of Thor, after having destroyed his foe. Thor is sometimes called Aukistor, or Thor of the Car, from his riding on a chariot, drawn by two powerful he-goats, named Sangniostr and Tangrisner. This deity has a spouse named Sipia, famous for her beautiful hair.

After Odin, Thor was the most cherished deity of Scandinavia, and had statues and temples erected to him everywhere. The statues of him were usually formed of clay, and represented a tall figure, with a red-painted beard, indicative of the lightning which he was supposed to wield. Bread and meat were s daily to the god by his worshippers, and at state libations were poured out in his honour.

Balder, the second son of Odin, was the most ful and amiable of the Aser or gods. Unlike t of his brethren, he was fond of peace, and had th of allaying tempests, and acting as a mediator, t divine wrath. His decrees were irrevocable. I points he resembled the Apollo of the Greeks, general qualities of that personage found a cl presentative in Braga or Bragi, the god of el and poetry. Niord, the god of the sea, and Freys, the god of rain, were also important de the north. Every element, or important natu nomenon, was under the guidance, in like ma some celestial personage. Frigga, the Scand Juno, was the bestower of fertility and plenty. or Freya, the daughter of Niord, was the Venu gard and the patroness of matrimony. Freia sisted in her duties by Siona and Sofna, the whom made lovers faithful, while the other re them when they quarrelled. Eyra was the ph of the gods. There were various other minor d in the Scandinavian mythology, though not m many as in the Grecian roll. The deficiency w up among the northerns by the assignment multitudinous duties to the greater deities. Th from the extent of his government, received a as one hundred and twenty distinct names, ea cating some individual quality ascribed to him.

The great hall appointed for the reception spirits of the brave, when they left earth for of the gods, was called Valhalla. Twelve beau terrible nymphs, named Valkyries (*choosers of th* were the guides of the good spirits to the hall halla, and supplied them with mead. The oc of drinking this northern nectar, and of eating of the wild boar Serimner, which, after servin daily food of thousands, became whole again night, filled up all those intervals of time in V that were not passed in fighting. None but th had shown surpassing bravery on earth were a into this Scandinavian paradise, and when ther daily amusement was to fight with one anothe or nearly all were cut in pieces. But little ha done in this way, for the spiritual bodies soon re and enabled the warriors to appear, entire in li limb, at the feasts that followed these extrao engagements. The skulls of enemies were the d cups used at the entertainments of Valhalla, guests are described as being almost perpetua state of inebriation. It was only when the e nounced the arrival of morning that these heroes arose from table, to issue to the field o through the five hundred and forty gates of V and hack each other to pieces anew. Such never-ending round of employment destined departed heroes of Scandinavia.

The mythology of the Scandinavians survive much later date than any other system of worship in Europe. It was not abolished eleventh century. St Olaf, King of Norway, zealous supporter of Christianity, usually recei credit of having overturned this most barbaro of religion. In the course of his efforts to Chri his subjects, he ordered a statue of Thor, pedestal on which it stood, to be broken in pie showed the people that the meat which had be down for the use of the god was not eaten by h by a host of rats and other vermin that had fo lodgement about the foundation of the colossal Whatever might have been the influence of the logy of the Scandinavians in Britain, it disap shortly after its overthrow on the continent of or only lingered in a kind of traditional ex amidst the remote islands of Orkney and Sheth finally banished by the progress of a more intelligence. The dread names of Odin, Tho other deities of the north, who for centuries w

down the human faculties, and kept up the reign of superstition, are now only perpetuated in the appellations affixed to some of the days of the week. Thus our term *Wednesday* is derived from Odin's or Wodin's day, that being the day of the week in which the northern Jupiter or supreme ruler of the gods was most honoured and worshipped. *Thursday* is from Thor, the second in dignity among these fabulous deities: as this day was called Dies Jovis by the Romans, we have here a confirmation that Thor the thunderer was equivalent either to Mars, or the thundering Jove of the Grecian mythology. *Friday* takes its appellation from Freya, the daughter of Niord, and corresponds with the Dies Veneris, or Venus day of of the Greeks and Romans. *Saturday* is derived in the same manner from the god Saeter of the Scandinavians, and Saturn of the Greeks. *Tuesday*, or anciently Tiesday (a pronunciation still preserved in Scotland), is supposed to be from Tisa, the wife of Thor, and the reputed goddess of Justice. *Sunday* and *Monday* were respectively named from the Sun and Moon, both by the northern and southern nations of Europe, from a remote period of time. The circumstance of there being such a marked resemblance between the characters of the deities whose names were employed to distinguish the same days of the week both by Greeks and Scandinavians, is not a little remarkable, and has never, as far as we know, been the subject of explanation by philologists or antiquaries. The fact is only certain, that the names of the days of the week now used by every civilised people, are based upon the mythological observances of either the Grecian or Scandinavian races.

ANGLO-SAXON SUPERSTITIONS.

At a comparatively early era, the mythology and minor superstitions of the Scandinavians, as well as the follies of Druidism, disappeared in Britain as the familiar superstitions of the Anglo-Saxon race became predominant. Like the Scandinavians of the north, the Anglo-Saxons deduced their descent from Odin, whom they worshipped along with Thor, Freya, and other imaginary deities of the Gothic people. They also worshipped idols emblematic of the sun, moon, earth, and various seasons and circumstances. In particular, they sacrificed to one goddess called Eostre, in the month of April, and her name still expresses the festival of Easter in the Christian church. In token of devotional feelings towards the sun, they solemnised a festival to that luminary on the day of December in which the days began to lengthen, a log of wood being burnt on the occasion as an emblem of returning light and heat. From this ancient practice, therefore, may be traced the custom of burning the Yule log at Christmas, which is still continued in many parts of England. Among the Anglo-Saxon superstitions was included a belief in giants, dwarfs, and elves, all of a spiritual order, but partaking in some degree of human attributes and feelings. In the term *elfi* or *elves*, we have one of the earliest traces on record of those ideal fairy tribes who afterwards figured in the familiar superstitions of the British islands. The Gothic nations, of whom the Anglo-Saxons were a branch, had various orders of elves, who were understood to haunt the fields, the woods, mountains, and waters, and received denominations accordingly, as field-elfin, dun-elfin, &c. Whether this varied race of spirits originated in the east, whence so many superstitions spread into ancient Europe, is not satisfactorily known, although it is probable that they did, and were of the same genus as the peri of the Persians, a being not dissimilar in character to our fay or fairy. Both in the Scandinavian and Anglo-Saxon superstitions, elves formed an important order of beings, not unlike in character to the demigods, naïads, driads, and other imaginary spirits of the Greek and Roman mythologies, and like them exerted a certain influence over human affairs.

Besides a belief in these mysterious elfin tribes, the Anglo-Saxons brought with them to England the still darker and more dangerous doctrines of witchcraft and divination, before which the reasoning powers of the people quailed, and all intellectual advancement was impeded. The general introduction of Christianity about the year 600, abolished, as a matter of course, the more gross pagan observances, but failed to extirpate the familiar and less obvious superstitions of the people. Witchcraft, wizardry, magic, divination, preparations of charms, and other mystic follies having no foundation in truth, continued to flourish, although opposed both by the more intelligent clergy and the kings. It is from the statutes, indeed, which Alfred, Canute, and other monarchs, passed for the prevention of magical practices, that we chiefly know their nature and extent. *Wiglaer*, a wizard, and *wicca*, a witch, are persons severely denounced. Penalties are enjoined if any one should destroy another by *wiccecraeft*. They appear to have used philtres, for it is declared a crime in any one to use witchcraft, or potions to produce another's love. Canute enjoins his people not to worship fire or floods, wells or stones, or any sort of tree; not to frame death-spells, either by lot or otherwise; and not to effect any thing by phantoms. Wizards, we also learn, pretended to the power of letting loose tempests, and controlling the visible operations of nature.

The introduction of Christianity, as has been mentioned, failed to dissipate the familiar superstitions of the English; a circumstance which can excite no surprise, as no pains were taken to enlighten the understandings of the people, or make them acquainted with the true causes of natural phenomena. We accordingly find, that from the seventh to the sixteenth century, the belief in demons, spirits, lubber fiends, and elves, of every shade and character, prevailed without intermission, and with no further challenge from the clergy than as being individually manifestations of the devil, on whom now the whole load of superstition was based. One goblin, in particular, formed the theme of innumerable legends. What was his name originally in continental Europe, whence he emigrated with the Anglo-Saxons, is of little consequence; in England he became known by the title of Father Rush, from a belief that he had on one occasion personated a monk or friar, and, to serve his own malignant purposes, had in that capacity long imposed on a religious brotherhood; afterwards, this appellation went out of repute, and he was popularly known and feared by the familiar name of Robin Goodfellow, and performed many useful services in the rural districts of England. It is not a little strange that both monks and clergy sanctioned these fancies, and increased their number by the propagation of legends, which we venture to say could not now receive the approbation of a single individual, lay or clerical, in England. Of these it is only necessary to mention the absurd stories which were fabricated and circulated respecting Dunstan, Abbot of Glastonbury, and afterwards Archbishop of Canterbury, who died in the year 988. When a boy, he is stated to have studied theology so sedulously as to reduce him to the point of death, when he was suddenly restored by some divine medicine sent to him by an angel in a storm. So extraordinary a circumstance could not but demand grateful thanksgivings, and Dunstan started from his bed and ran with full speed towards the church. Satan met him in the way, surrounded with numerous black dogs, and endeavoured to defeat his pious intention. But Dunstan was not to be overcome; he instantly prayed for ability, and was enabled to cudgel the devil and his black dogs so effectually, that they left him and the angel together; the latter of whom, finding the church door fastened, took up the pious youth in his arms, and conveyed him to his devotions through the roof. Another time the devil attempted to intrude himself upon St Dunstan's studies in his laboratory, but the saint speedily punished his impertinence, by taking from the fire his tongs, which were red hot, and with them seized the nose of the fiend, who was thereupon glad to make his escape. It is lamentable to think how such vain imaginations should have so long weighed upon the

understandings of the people, and engrafted a habitual dread of the supernatural, which till this day exerts an influence over the untutored mind.

FAIRIES.

Among the various supernatural beings to whom the ignorance and credulity of mankind have given an imaginary existence, the Fairies occupy a prominent place, and are especially worthy of notice. The characters of different classes of spirits have become so mingled and confounded together in the lapse of time, that it is difficult to define individual species with correctness and precision; but there is one characteristic which appears to distinguish the fairy from every other being of a similar order. Most spirits could contract and diminish their bulk at will, but the fairy alone seems to have been regarded as essentially small in size. The majority of other spirits, also, such as dwarfs, brownies, and the like, are represented as deformed creatures, whereas the fairy has almost uniformly been described as a beautiful miniature of the human being, perfect in face and form. These points of distinction, with a dress of pure green, are the principal ones which mark the personal individuality of the fairies as a supernatural race.

The origin of the fairy superstition is ascribed by most writers to the Celtic people, but the blending of the Gothic tribes with the Celts led to the admixture of many attributes of the northern spirits with those proper to the fairies. Thus, the latter race, which appears to have been intrinsically good and benevolent, has been gifted with attributes of the very opposite kind, borrowed from the trolls and elves of the north. In Scotland, and other countries where the Celtic traditions predominated, the fairies retained, in part, the original and better features of their character, and were usually called the Good Neighbours, or the Men of Peace; but even there, their character was deteriorated by a considerable leaven of elfin or dwarfish malignancy. This evil part of their nature caused much annoyance to mankind, and, more especially, their propensity to the kidnapping of human beings. Unchristened infants were chiefly liable to this calamity, but sometimes adult men and women were also carried off. The reason for these abductions is to be found, according to the authorities on this subject, in the necessity which the fairies lay under of paying "kane," as it was called, to the master-fiend, or, in other words, of yielding up one of their number septennially into his hands by way of tribute. They greatly preferred on such occasions to make a scape-goat of some member of the human family. They also carried off young married women to be nurses to their infants; and in Ireland, at this day, when a young woman falls victim to puerperal disease, the country people firmly assert that she has been removed for this purpose.

The necessity for the latter kind of kidnapping shows the fairies to have been *family* people. They are always represented as living, like mankind, in large societies, and under a monarchical form of government. The Salique law seems to have had no countenance among them, for we more often hear of fairy queens than of fairy kings, though both are frequently spoken of. The Land of Faerie was situated somewhere under ground, and there the royal fairies held their court. In their palaces all was beauty and splendour. Their pageants and processions were far more magnificent than any that eastern sovereigns could get up, or poets devise. They rode upon milk-white steeds. Their dresses, of brilliant green, were rich beyond conception; and when they mingled in the dance, or moved in procession among the shady groves, or over the verdant lawns of earth, they were entertained with delicious music, such as mortal lips or hands never could emit or produce. At the same time, most of the legendary tales on the subject represent these splendours as shadowy and unsubstantial. When the eye of a seer, or any one *gifted* with supernatural powers, was turned upon the *fairy* pageantries or banquets, the illusion vanished. Their seeming treasures of gold and sil slate-stones, their stately halls became da and they themselves, from being miniatu human beauty, became personifications ugliness. In short, the Fairy Eden was thing of show without substance.

This is the general account given of the but few of the legends on the subject agree From a very early period, however, every f concurred in giving to the king and queen the names of Oberon and Titania. Oberon rich or Rich Elf of the Germans, and was en his modern name, as well as with new att the old French romancers, who represents tiny creature of surpassing loveliness, with jewels on his head, and a horn in his hand who heard it to the dancing.

It was the belief that unchristened chil peculiarly liable to be carried off by the fa sometimes left little changelings, of their ow place of the infants of mortal kind. Ben his Sad Shepherd, makes the tending and t human changelings to be one of the favourit ployments.

> "There, in the stocks of trees, white fays do d
> And span-long elves, that dance about a pot
> With each a little changeling in their arms."

Various charms were used in Scotland for th tion of stolen children. The most efficacious lieved to be the *roasting* of the supposititious c live embers, when it was understood that the fa would disappear, and the true one be left in It is to be hoped, that this cruel and monstr tice was seldom followed. The possession of called *toadstones* was also held to be an efficac vative against the abduction of children by th In Waldron's Account of the Isle of Man, va rious stories of children kidnapped by the fai one case, where a woman had given birth t her attendants were enticed from the house of "Fire!" and while they were out, the t taken from the helpless mother by an invisib but the sudden re-entry of some of the gossips s the fairies to drop the child, and it was found ing on the threshold. The fairies, who seemed taken a particular liking to this woman's offspri to carry off her second child in the same way, b again. On a third trial, they succeeded, and le them a changeling, a withered and deformed c which neither spoke nor walked during an e of nine years, and ate nothing but a few herb to be feared that this changeling superstition m been the cause of much deplorable cruelty. T member of a family, who from natural misfort defects required the kindliest tending, would often be neglected and wretchedly misused, on of its being an alien. We may smile at ma credulous fancies respecting the fairies, but in this order of superstitions, as in almost a some points which strongly exhibit to us th effects inevitably attendant upon ignorance kind.

Numberless stories of a ridiculous kind hav relative to the intercourse of the fairies with Some of the poor creatures arraigned in s past times for witchcraft, admitted having spondence with the fairies. There can be that these wretched beings, whom the *for* into the confession of *some* kind or other of su traffic, were induced to admit an association in the hope that this would be looked upon a than a league with the enemy of mankind. of Bessie Dunlop and Alison Pearson, in the and 1588, illustrate this statement. Be avowed that her familiar was one Thom ghost of a soldier slain at Pinkie in 1547, a his death seems to have become an inmate She related that this Thome Reid, who a

quently to her in the likeness of an elderly man, grey-coated and grey-bearded, wished her to go with him to the fairy country, and gave her herbs to cure various diseases. He even once brought to her the queen of the fairies, who, to the confusion of poetry, was a fat woman, fond of ale, and, in short, most unlike the Titania of romance. Alison Pearson also admitted her familiarity with the fairies, from whom she frequently received herbs for the cure of disease. It is remarkable that Patrick Adamson, an able scholar and divine, who was created Archbishop of St Andrews by James VI., actually took the medicines prescribed by this poor woman, in the hope that they would transfer an illness with which he was seized to the body of one of his horses. This feat, it was believed, was accomplished by the prescription. The unfortunate women who confessed these things, were deceived in the expectation which led to the act. They could not so save themselves. They were both convicted, and perished at the stake.

It may not be improper in this place to allude to the fancies of the poets on the subject of the fairies. Shakspeare stands pre-eminent in this department. His Midsummer Night's Dream is a poem of exquisite beauty, and one corresponding in every respect with the delicately fanciful nature of the subject. In Romeo and Juliet, he has also described an important fairy, Queen Mab, who has almost dethroned Titania of late years. Mr Tennant's Anster Fair has been of great avail to the fame of Mab. Whoever chooses to consult Drayton and the poets mentioned, will have the pleasure of observing and enjoying the exercise of poetical fancy of the highest order on the subject of fairies.

The superstitions now described are not yet extinct in the British Islands. In Ireland, the Scottish Highlands, and Wales, in particular, the fairies are yet objects of general belief. Education has not yet shed its enlightening influence there, and by education alone can the darkness of superstition be dispelled. This is almost a truism, for superstition and ignorance are nothing else than equivalent terms. The spirit is abroad, however, which will extinguish this remnant of barbarism, and it is consoling to think so, for the ills which have flowed from this source are numberless.

WITCHCRAFT.

A belief that certain individuals possessed magical powers, and could exercise a supernatural influence over their fellow-creatures, existed in ancient Rome, and those who practised, or rather *pretended* to exercise, such arts, were punishable by the civil magistrate. It is to be observed, that neither among the Romans nor the Pagan nations of northern Europe, was witchcraft deemed an offence against *religion;* in some instances, indeed, the witch was supposed to derive her powers from spirits friendly to mankind, and her profession, though feared, was held in honour by her infatuated dupes. Upon the introduction of Christianity, witchcraft assumed a new form, though retaining all its old attributes. Instead of ascribing the supernatural powers of the practitioner to the gods, to Odin, to spirits of good or evil qualities, or to supposed mysteries in nature, the people imputed them to the great fallen spirit mentioned in Scripture. This potent being, from a wicked desire to destroy all that was good and hopeful in man's destiny, was believed to enter into a compact with the aspirant witch, in which, for an irrevocable assignment of her soul at death, he was to grant all her wishes, and assist in all her malevolent projects. These new features in witchcraft, as we shall speedily perceive, thoroughly changed and prodigiously extended the superstition throughout Europe. From being rather a sportive kind of jugglery, or trick in practical magic, and at most only a civil offence, it was recognised as a crime of the deepest dye, meriting the most severe chastisement which the ecclesiastical and civil power could inflict.

We must here notice, however, that the demon or master-fiend of the witchcraft legends was a very different being from that great fallen spirit, held, in a graver view of things, so deeply to influence the best interests of humanity. As this superstition gained force in the Christian world, which it did by slow and successive steps through the whole of the middle ages, or from the fifth century till about the fifteenth, the devil—for it is impossible to avoid the mention of this emphatic name, disagreeable as it is commonly said to be to ears polite—gradually lost many of the former features of his character; or, rather, a different being was substituted for him, combining the characteristics of the Scandinavian Lokke with those of a Satyr of the heathen mythology—a personage equally wicked and malicious as the sterner spirit of evil, but rendered ludicrous by a propensity for petty trickery, and by such personal endowments as a pair of horns, a cow's tail, and cloven feet. There can be no doubt that the demon of the middle ages borrowed these attributes from his human representatives in the old mysteries and plays, where a laudable endeavour was made to make the evil one as ugly as possible. We are told, it is true, that he could at will assume any specious disguise that suited him, but the eye of the initiated observer could readily detect the "cloven foot"—or, in other words, penetrate his true character. Such as he was, he played an important part in the annals of modern witchcraft, which was supposed to rest entirely on the direct and personal agency of himself and the imps commissioned by him. Nor was this supposition confined to the illiterate, or to persons of peculiarly credulous temperament. Authors, distinguished for sense and talent, record with great seriousness, that the devil once delivered a course of lectures on magic at Salamanca, habited in a professor's gown and wig; and that at another time he took up house in Milan, lived there in great style, and assumed, rather imprudently one would say, the suspicious yet appropriate title of the "Duke of Mammon." Even Luther entertained similar notions about the fiend, and, in fact, thought so meanly of him as to believe that he could come by night and steal nuts, and that he cracked them against the bedposts, for the solacement of his monkey-like appetite.

The powers ascribed to this debased demon were exceedingly great. The general belief was, that through his agency storms at sea and land could at all seasons be raised; that crops could be blighted and cattle injured; that bodily illnesses could be inflicted on any person who was the object of secret malice; that the dead could be raised to life; that witches could ride through the air on broomsticks, and transform themselves into the shapes of cats, hares, or other animals, at pleasure. An old writer, speaking of the powers of witches, says—"1. Some work their bewitchings only by way of invocation or imprecation. They wish it, or will it; and so it falls out. 2. Some, by way of emissary, sending out their imps, or familiars, to crosse the way, justle, affront, flash in the face, barke, howle, bite, scratch, or otherwise infest. 3. Some by inspecting, or looking on, or to glare, or peep at with an envious and evil eye. 4. Some by a hollow muttering or mumbling. 5. Some by breathing and blowing on. 6. Some by cursing and banning. 7. Some by blessing and praising. 8. Some revengefully, by occasion of ill turnes. 9. Some ingratefully, and by occasion of good turnes. 10. Some by leaving something of theirs in your house. 11. Some by getting something of yours into their house. 12. Some have a more speciall way of working by severall elements—earth, water, ayre, or fire. But who can tell all the manner of wayes of a witch's working; that works not only darkly and closely, but variously and versatilly, as God will permit, the devil can suggest, or the malicious hag devise to put in practice?"

In the present age of comparative intelligence, it is difficult to understand how human beings could be so deplorably ignorant as to entertain such a gross superstition. We must, however, recollect that the belief was greatly fostered by religious impressions, and that it was long considered a mark of impiety to doubt the existence of witches. Various other circumstances

helped to cherish and magnify the error. The true causes of the majority of natural phenomena were unknown. The nature of the atmosphere, and of certain meteoric appearances—of the laws which regulate storms at sea, and tides—of human maladies and their remedies—were enveloped in obscurity. Natural causes being unknown, and the very doctrine of them unacknowledged, the weak and easily terrified mind flew to the conclusion that all evil proceeded from a power malignant to man, and that by certain impious dealings it was possible for man himself to direct that power against his neighbour.

The superstition seems to have approached its height about the end of the fifteenth century. In his bull of 1484, Pope Innocent charged inquisitors and others to discover and destroy all such as were guilty of witchcraft. This commission was put into the hands of a wretch called Sprenger, with directions that it should be put in force to its fullest extent. Immediately there followed a regular form of process and trial for suspected witches, entitled *Malleus Maleficarum*, or a Hammer for Witches, upon which all judges were called scrupulously to act. The edict of 1484 was subsequently enforced by a bull of Alexander VI. in 1494, of Leo X. in 1521, and of Adrian VI. in 1522, each adding strength to its predecessor, and the whole serving to increase the agitation of the public mind upon the subject. The results were dreadful. A panic fear of witchcraft took possession of society. Every one was at the mercy of his neighbour. If any one felt an unaccountable illness, or a peculiar pain in any part of his body, or suffered any misfortune in his family or affairs, or if a storm arose and committed any damage by sea or land, or if any cattle died suddenly, or, in short, if any event, circumstance, or thing occurred out of the ordinary routine of daily experience, the cause of it was witchcraft. To be accused was to be doomed, for it rarely happened that proof was wanting, or that condemnation was not followed by execution. Armed with the Malleus Maleficarum, the judge had no difficulty in finding reasons for sending the most innocent to the stake. If the accused did not at once confess, they were ordered to be shaved and closely examined for the discovery of devil's marks; it being a tenet in the delusion that the devil, on inaugurating any witch, impressed certain marks on her person; and if any strange mark was discovered, there remained no longer any doubt of the party's guilt. Failing this kind of evidence, torture was applied, and this seldom failed to extort the desired confession from the unhappy victim. A large proportion of the accused witches, in order to avoid these preliminary horrors, confessed the crime in any terms which were dictated to them, and were forthwith led to execution. Other witches, as has been said, seemed to confess voluntarily, being probably either insane persons, or feeble-minded beings, whose reason had been distorted by brooding over the popular witchcraft code. A few extracts from the work of Dr Hutchinson will show the extent of these proceedings:—

"A. D. 1485.—Cumanas, an inquisitor, burnt forty-one poor women for witches, in the county of Burlia, in one year. He caused them to be shaven first, that they may be searched for marks. He continued the prosecutions in the year following, and many fled out of the country.

About this time, Alciat, a famous lawyer, in his *Parergu*, says, 'One inquisitor burnt a hundred in Piedmont, and proceeded daily to burn more, till the people rose against the inquisitor, and chased him out of the country.'

A.D. 1488.—A violent tempest of thunder and lightning in Constance destroyed the corn for four leagues round. The people accused one Anne Mindelin, and one Agnes, for being the cause of it. They confessed, and were burnt.

About this time, H. Institor says, one of the inquisitors came to a certain town, that was almost desolate with plague and famine. The report went, that a certain woman, buried not long before, was eating up her winding-sheet, and that the plague would not cease till she had made an end of it. This matter being taken into consideration, Scultetus, with the chief magistrate of the city, opened the grave, and found that she had indeed swallowed and devoured one-half of her winding-sheet. Scultetus, moved with horror at the thing, drew out his sword, and cut off her head, and threw it into a ditch, and immediately the plague ceased! and the inquisition sitting upon the case, it was found that she had long been a reputed witch.

A.D. 1524.—About this time a thousand were burnt in one year, in the diocese of Como, and a hundred per annum for several years together."

From other authorities it is learned that the devastation was as great in Spain, France, and northern Germany, as it was in the Italian states. About the year 1515, five hundred witches were burned in Geneva in three months, and in France many thousands. An able writer in the Foreign Quarterly Review,* sums up the following particulars respecting the executions for witchcraft in some of the German states:—

"In Germany, to which indeed the bull of Innocent bore particular reference, this plague raged to a degree almost inconceivable. Bainberg, Paderborn, Wurtzburg, and Treves, were its chief seats, though for a century and a half after the introduction of the trials under the commission, no quarter of that great empire was free from its baneful influence. A catalogue of the executions at Wurtzburg for the period from 1627 to February 1629, about two years and two months, is printed by Hauber in the conclusion of his third volume of the Acta et Scripta Magica. It is regularly divided into twenty-nine burnings, and contains the names of 157 persons, Hauber stating at the same time that the catalogue is not complete. It is impossible to peruse the list without shuddering with horror. The greater part of this catalogue consists of old women or foreign travellers, seized, as it would appear, as foreigners were at Paris during the days of Marat and Robespierre. It contains children of twelve, eleven, ten, and nine years of age; fourteen vicars of the cathedral; two boys of noble families, the two little sons of the senator Stolzenburg; a stranger boy; a blind girl; Gobel Babelin, the handsomest girl in Wurtzburg, &c. And yet, frightful as this list of 157 persons executed in two years appears, the number is not (taking the population of Wurtzburg into view) so great as the Lindheim process from 1660 to 1664; for in that small district, consisting at the very utmost of 600 inhabitants, thirty persons were condemned and put to death, making a twentieth part of the whole population consumed in four years.

How dreadful are the results to which these data lead! If we take 157 as a fair average of the executions at Wurtzburg (and the catalogue itself states that the list was by no means complete), the amount of executions there in the course of the century preceding 1628, would be 15,700. We know that from 1614 to 1660 was the great epoch of the witch trials, and that so late as 1749, Maria Renata was executed at Wurtzburg for witchcraft; and though in the interval between 1660 and that date, it is to be hoped that the number of these horrors had diminished, there can be little doubt that several thousands fall to be added to the amount already stated. If Bainberg, Paderborn, Treves, and the other Catholic bishoprics, whose zeal was not less ardent, furnished an equal contingent, and if the Protestants, as we know, actually vied with them in the extent to which these cruelties were carried, the number of victims from the date of Innocent's bull to the final extinction of these prosecutions, must considerably exceed 100,000 in Germany."

WITCHCRAFT IN SCOTLAND.

The mania respecting witchcraft, which sprang up into vigour throughout southern Europe in consequence

* No. XL., 1830.

of the edicts of Innocent and Leo, spread in time to Scotland, and acquired strong possession of the public mind during the reign of Queen Mary. At that period, an act was passed by the Scottish Parliament for the suppression and punishment of witchcraft; but this only served, as the papal bulls had done, to confirm the people in their maniacal credulity, and to countenance and propagate the general delusion. In terms of these ill-judged statutes, great numbers of persons, male as well as female, were charged with having intercourse with the devil, convicted, and burned on the Castlehill of Edinburgh and elsewhere. This continued during the earlier part of the reign of James VI., whose mind, unfortunately for the more aged of the female part of his subjects, was deeply impressed with the flagrant nature of the crime of witchcraft. In 1590, James, it is well known, made a voyage to Denmark to see, marry, and conduct home in person, his appointed bride, the Princess Anne. Soon after his arrival, a tremendous witch conspiracy against the happy conclusion of his homeward voyage was discovered, in which the principal agents appeared to be persons considerably above the vulgar. One was Mrs Agnes Sampson, commonly called the *Wise Wife of Keith* (Keith being a village in East-Lothian), who is described as "grave, matron-like, and settled in her answers." On this occasion, the king was induced by his peculiar tastes to engage personally in the business of judicial investigation. He had all the accused persons brought before himself for examination, and even superintended the tortures applied to them to induce confession. The statements made by these poor wretches form a singular tissue of the ludicrous and horrible in intimate union.

"The said Agnis Sampson was after brought again before the king's majestie and his council, and being examined of the meetings and detestable dealings of these witches, she confessed, that upon the night of All-Hallow-even she was accompanied, as well with the persons aforesaid, as also with a great many other witches, to the number of two hundred, and that all they together went to sea, each one in a riddle, or sieve, and went in the same very substantially, with flaggons of wine, making merrie and drinking by the way in the same riddles, or sieves, to the Kirk of North-Berwick, in Lothian, and that after they had landed, took hands on the land, and danced this reil, or short daunce, singing all with one voice,

'Cummer, goe ye before, cummer, goe ye;
Gif ye will not goe before, cummer, let me.'

At which she confessed that Geillis Duncan did goe before them, playing this reil or daunce upon a small trump, called a Jew's harp, until they entered into the Kirk of North-Berwick. These made the king in a wonderful admiration, and he sent for the said Geillis Duncan, who upon the like trump did play the said daunce before the king's majestie, who, in respect of the strangeness of these matters, took great delight to be present at their examinations."

In the sequel of Agnes Sampson's confession we find some special reasons for the king's passionate liking for these exhibitions, in addition to the mere love of the marvellous. The witches pandered to his vanity on all occasions, probably in the vain hope of mitigating their own doom. Agnes Sampson declared that one great object with Satan and his agents was to destroy the king; that they had held the great North Berwick convention for no other end; and that they had endeavoured to effect their aim on many occasions, and particularly by raising a storm at sea when James came across from Denmark. "The witches demanded of the divell why he did beare such hatred to the king? who answered, by reason the king is the greatest enemie hee hath in the world." Such an eulogy, from such a quarter, could not but pamper the conceit of "the Scottish Solomon."

The following further points in the deposition of Agnes Sampson are worthy of notice. "*Item*, She went with the witch of Carrieburn, and other witches, to the Kirk of Newton, and taking up dead folks and jointing them [cutting off fingers, &c.], made enchanted powders for witchcraft. *Item*, She went with other witches in a boat, the devil going before them like a rock of hay. *Item*, The devil, in the shape of a dog, gave her responses concerning her laird's recovery, and endeavoured to put awa ane of the ladies' daughters. *Item*, she raised a universal great storm in the sea when the queen was coming to Scotland, and *wrote a letter* to that effect to a witch in Leith. *Item*, She used this prayer in the healing of sickness:—

All kinds of ill that ever may be," &c.

The repetition of these and such like verses by the confessing witches, has been matter of frequent surprise. But it must be remembered that a code of witchcraft, extensively known and accredited, existed at that day, regular forms and rules for its exercise having been laid down in the course of time. It must be recollected, also, that these poor creatures, though guiltless of all supernatural intercourse, had really pretended to the gift of healing by charms and incantations in many cases, and had to invent or learn formulas for the purpose. Besides, we find these doggrel scraps chiefly in the revelations of Agnes Sampson. She, it is stated, could write, and of course could read also; and hence she is to be regarded as a person who had had superior opportunities for acquiring a knowledge of the witchcraft code, as well as superior capabilities for filling up deficiencies on the spur of the moment. In her confession she implicated one Doctor Fian, otherwise called John Cunningham, master of the school at Saltpans, in Lothian, a man whose story may be noticed at some length, as one of the most curious and instructive in the whole annals of Scottish witchcraft.

Mrs Sampson deposed that Dr Fian was always a prominent person at the witch-meetings, and Geillis Duncan, the marvellous trump-player, confirmed this assertion. Whether made through heedlessness or malice, these averments decided Fian's fate. He was seized, and after being "used with the *accustomed paine* provided for those offences inflicted upon the rest, first, by *thrawing of his head with a rope*, whereat he would confess nothing;" and, secondly, being urged "by fair meanes to confesse his follies," which had as little effect; "lastly, hee was put to the most severe and cruell paine in the world, called the bootes, when, after he had received three strokes, being inquired if he would confesse his actes and wicked life, his tongue would not serve him to speake; in respect whereof, the rest of the witches willed to search his tongue, under which was founde two pinnes thrust up into the heade, whereupon the witches did say, now is the charme stinted, and showed that those charmed pins were the cause he could not confesse any thing; then was he immediately released of the bootes, brought before the king, and his confession was taken." Appalled by the cruel tortures he had undergone, Fian seems now only to have thought how he could best get up a story that should bring him to a speedy death. He admitted himself to be the devil's "register," or clerk, who took the oaths from all witches at their initiation, and avowed his having bewitched various persons. In proof of the latter statement he instanced the case of a gentleman near Saltpans, whom he had so practised upon, he said, that the victim fell into fits at intervals. This person, who seems to have been either a lunatic or afflicted with St Vitus's dance, was sent for, and "being in his majestie's chamber, suddenly hee gave a great scritch, and fell into madnesse, sometimes bending himself, and sometimes capring so directly up, that his heade did touch the seeling of the chamber, to the great admiration of his majestie." On these and other accounts Dr Fian was sent to prison, but he contrived soon after to escape from it. "By means of a hot and harde pursuite," he was retaken, and brought before the king, to be examined anew. But the unfortunate man had had time to think, and like Cranmer under somewhat similar circumstances, resolved to retract the admis-

sions which the weakness of the body had drawn from him, and to suffer any thing rather than renew them. He boldly told this to the king; and James, whom these records make us regard with equal contempt and indignation, ordered the unfortunate man to be subjected to the following most horrible tortures. "His nailes upon all his fingers were riven and pulled off with an instrument called in Scottish a *turkas*, which in England are called a payre of pincers, and under everie nayle there was thrust in two needles over, even up to the heades; at all which tormentes, notwithstanding, the doctor never shrunk a whit, neither would he then confesse it the sooner for all the tortures inflicted on him. Then was hee, with all convenient speed, by commandement, convaied again to the torment of the bootes, wherein he continued a long time, and did abide so many blowes in them, that his legges were crusht and beaten together as small as might bee, whereby they were make unserviceable for ever." Notwithstanding all this, such was the strength of mind of the victim, or, as King James termed it, "so deeply had the devil entered into his heart," that he still denied all, and resolutely declared that "all he had done and said before was only done and said for fear of the paynes which he had endured." As, according to this fashion of justice, to confess or not to confess was quite the same thing, the poor schoolmaster of Saltpans was soon afterwards strangled, and then burned on the Castlehill of Edinburgh (January 1591).

Much about the same time that Agnes Sampson made her confessions, some cases occurred, showing that witchcraft was an art not confined to the vulgar. A woman of high rank and family, Catherine Ross, Lady Fowlis, was indicted at the instance of the king's advocate for the practice of witchcraft. On inquiry it was clearly proved that this lady had endeavoured, by the aid of witchcraft and poisons, to take away the lives of three or more persons who stood between her and an object she had at heart. She was desirous to make young Lady Fowlis possessor of the property of Fowlis, and to marry her to the Laird of Balnagown. Before this could be effected, Lady Fowlis had to cut off her sons-in-law, Robert and Hector Munro, and the young wife of Balnagown, besides several others. Having consulted with witches, Lady Fowlis began her work by getting pictures of the intended victims made in clay, which she hung up, and shot at with arrows shod with flints of a particular kind, called elf-arrow heads. No effect being thus produced, this really abandoned woman took to poisoning ale and dishes, none of which cut off the proper persons, though others who accidentally tasted them lost their lives. By the confession of some of the assistant hags, the purposes of Lady Fowlis were discovered, and she was brought to trial; but a local or provincial jury of dependants acquitted her. One of her purposed victims, Hector Munro, was then tried in turn for conspiring with witches against the life of his brother George. It was proved that a curious ceremony had been practised to effect this end. Hector, being sick, was carried abroad in blankets, and laid in an open grave, on which his foster-mother ran the breadth of nine riggs, and, returning, was asked by the chief attendant witch, "which she chose should live, Hector or George?" She answered, "Hector." George Munro did die soon afterwards, and Hector recovered. The latter was also acquitted, by a provincial jury, on his trial.

These disgraceful proceedings were not without their parallel in other families of note of the day. Euphemia Macalzean, daughter of an eminent judge, Lord Cliftonhall, was burned at the stake in 1591, having been convicted, if not of witchcraft, at least of a long career of intercourse with pretenders to witchcraft, whom she employed to remove obnoxious persons out of her way — tasks which they accomplished by the very simple means of poisoning, where they did accomplish them at all. The jury found this violent and abandoned woman, for such she certainly was, guilty of participation in the murder of her own god-father, of her husband's nephew, and another individual. They also found her having been at the Wise Woman of Keith's gr convention of North Berwick; but every wi day was compelled to admit having been the compliment to the king, to whom it was a agreeable terror to think himself of so much in as to call for a solemn convocation of the pow to overthrow him. Euphemia Macalzean was assis, *quick*, to the death." This was a doom signed to the less guilty. Alluding to cases of t class, a writer (already quoted) in the Foreign Review remarks, "In the trials of Bessie Roy, Reid, of Patrick Currie, of Isobel Grierson, Grizel Gardiner, the charges are principally off and laying on diseases either on men o meetings with the devil in various shapes and raising and dismembering dead bodies for the of enchantments; destroying crops; scaring hon sons in the shape of cats; taking away women committing housebreaking and theft by means chantments, and so on. South-running wate rowan-tree, enchanted flints (probably elf-arrow and doggrel verses, generally a translation of th or Lord's Prayer, were the means employed fo ing a cure." Diseases, again, were laid on by pictures of clay or wax; by placing a dead h some mutilated member, in the house of the v victim; or by throwing enchanted articles at h A good purpose did not save the witch; into with spirits, in any shape, being the crime.

Of course, in the revelations of the various inconsistencies were abundant, and even plain dent impossibilities were frequently among the averred. The sapient James, however, in being led by these things to doubt the whole, strengthened in his opinions, it being a maxim that the witches were "all extreme lyars." Oth sons came to different conclusions from the sa mises, and before the close of James's reign, ma of sense began to weary of the torturings and mations that took place almost *every day*, in t country, and had done so for a period of thirt (betwixt 1590 and 1620). Advocates now ca ward to defend the accused, and in their pl ventured even to arraign some of the received of "Daemonologie" laid down by the king himse book bearing that name. The removal of Ja England moderated, but did not altogether st witch prosecutions. After his death they sla more considerably. Only eight witchcraft cases the Record as having occurred between 1625 an in Scotland, and in one of these cases, remark tell, the accused escaped. The mania, as it a was beginning to wear itself out.

As the spirit of puritanism gained strength, h which it gradually did during the latter part reign of Charles I., the partially cleared horiz came again overcast, and again was this owing judged edicts, which, by indicating the belief great and the educated in witchcraft, had the effect of reviving the frenzy among the flexible lace. The General Assembly was the body in t this occasion, and from this time forward the were the great witch-hunters in Scotland. T sembly passed condemnatory acts in 1640, 43, and 49, and with every successive act the ca convictions increased, with even a deeper de attendant horrors than at any previous time. old impossible and abominable fancies," says the formerly quoted, "of the *Malleus* were revived. thirty trials appear on the Record between 16 the Restoration, only one of which appears to h minated in an acquittal; while at a single circu at Glasgow, Stirling, and Ayr, in 1659, sevente sons were convicted and burnt for this crime. it must be remembered that the phrase "on the R alludes only to justiciary trials, which formed small proportion of the cases really tried. Th ciary lists take no note of the commissions per

ren by the privy-council to resident gentlemen and rgymen to try and burn witches in their respective tricts. These commissions executed people over e whole country in multitudes. Wodrow, Lamont, rcer, and Whitelocke, prove this but too satisfac-rily.

The clergy continued, after the Restoration, to pur-e these imaginary criminals with a zeal altogether plorable. The Justiciary Court condemned twenty rsons in the first year of Charles II's reign (1661), d in one day of the same year the council issued rteen new provincial commissions, the aggregate ings of which one shudders to guess at. To compute air condemnations would be impossible, for victim er victim perished at the stake, unnamed and un-ard of. Morayshire became at this particular period scene of a violent fit of the great moral frenzy, and e of the most remarkable examinations signalising whole course of Scottish witchcraft took place in county. The details, though occasionally ludicrous n their absurdity, are too horrible for narration in present pages.

The popular frenzy seems to have exhausted itself its own virulence in 1661–62, for an interval of six rs subsequently elapsed without a single justiciary l for the crime of witchcraft, and one fellow was ually whipped for charging some person with it. er this period, the dying embers of the delusion only st out on occasions, here and there, into a momen-y flame. In 1678, several women were condemned, n their own confession," says the Register; but we spect this only means, in reality, that one malicious ing made voluntary admissions involving others, as st often have been the case, we fear, in these pro-edings. Scattered cases took place near the beginning the eighteenth century, such as those at Paisley in 7, at Pittenweem in 1704, and at Spott about the e time. It is curious, that, as something like di-t evidence became necessary for condemnation, that idence presented itself, and in the shape of possessed enchanted young persons, who were brought into urt to play off their tricks. The most striking case this nature was that of Christian Shaw, a girl about ven years old, and the daughter of Mr Shaw of Bar-rran, in Renfrewshire. This wretched girl, who ms to have been an accomplished hypocrite, young she was, quarrelled with a maid-servant, and, to be venged, fell into convulsions, saw spirits, and, in short, gined herself bewitched. To sustain her story, she cused one person after another, till not less than nty were implicated, some of them children of the e of twelve and fourteen! They were tried on the idence of the girl, and five human beings perished ough her malicious impostures. It is remarkable t this very girl afterwards founded the thread manu-ture in Renfrewshire. From a friend who had been Holland, she learnt some secrets in spinning, and, utting them skilfully in practice, she led the way to e extensive operations carried on in that department late years. She became the wife of the minister of lmaurs, and, it is to be hoped, had leisure and grace repent of the wicked misapplication, in her youth, those talents which she undoubtedly possessed.

The last justiciary trial for witchcraft in Scotland s in the case of Elspeth Rule, who was convicted in 8, and—banished. The last regular execution for e crime is said to have taken place at Dornoch in 22, when an old woman was condemned by David ss, sheriff of Caithness. But we fear the provincial ecords of the north, if inquired into, would show later aths on this score. However, here may be held to d the tragical part of the annals of Scottish witchcraft. e number of its victims, for reasons previously ated, it would be difficult accurately to compute, but e black scroll would include, according to those who ve most attentively inquired into the subject, upwards FOUR THOUSAND persons! And by what a fate they erished! Cruelly tortured while living, and dismissed om life by a living death amid the flames! And for what! For an impossible crime! And who were the victims, and who the executioners? The victims, in by far the majority of cases, were the aged, the weak, the deformed, the lame, and the blind; those to whom nature had been ungentle in her outward gifts, or whom years and infirmities had doomed to poverty and wretch-edness; exactly that class of miserable beings, in short, for whom more enlightened times provide houses of refuge, and endow charitable institutions, aiming, in the spirit of true benevolence, to supply to them that attention and support which nature or circumstances have denied them the power of procuring for them-selves. Often, too, was the victim a person distin-guished by particular gifts and endowments; gifts bestowed by the Creator in kindness, but rendered fatal to the possessor by man. These were the victims of witchcraft. The executioners were the wisest and greatest of their time. Men distinguished above their fellows for knowledge and intelligence, ministers of religion and of the laws, kings, princes, and nobles—these, and such as these, judged of the crime, pro-nounced the doom, and sent the poor victims of delu-sion to the torture, the stake, and the scaffold.

WITCHCRAFT IN ENGLAND.

Witchcraft was first denounced in England, by formal and explicit statutes, in the year 1541, in the reign of Henry VIII. Previously to that time, many witch-trials had taken place, and severe punishments had even been inflicted on the parties concerned; but this was occasioned by the direction of the arts of sorcery, in these particular instances, against the lives and well-being of others, and not from the legal criminality of such arts themselves. Shakspeare has made some early cases of this nature familiar to us, and in particular that of the Duchess of Gloucester, who, for conspiring with witches against the life of the reigning sovereign, Henry VI., was compelled to do public penance, and imprisoned for life. But, as has been said, the mode of prosecut-ing the guilty purpose was here altogether a subsidiary matter. If a person waved his hat three times in the air, and three times cried "Buzz!" under the impres-sion that by that formula the life of another might be taken away, the old law and law-makers (as, for ex-ample, Selden, who states this very case) considered the formulist worthy of death as a murderer in intent; and upon this principle the trafficking with witches was punished in early times.

Witchcraft, however, by and bye assumed greater statutory importance, in England as elsewhere. Henry VIII.'s two acts were levelled against conjuration, witch-craft, false prophecies, and pulling down of crosses. Here the charge was still something beyond mere sorcery, and it was left for Elizabeth, in 1562, to direct a statute exclusively against that imaginary crime. At the same time, that princess extenuated her conduct in part, by limiting the penalty of the crime, when stripped of its customary accessories, to the pillory. The first trans-gression, at least, received no heavier punishment. The cases of Elizabeth's reign were chiefly cases of pre-tended possession, sometimes, however, involving capital charges against those said to have caused the possession. In one famous case, of which the main features were as ludicrous as the issue was deplorable, three poor persons, an old man named Samuel, with his wife and daughter, were tried at Huntingdon, for having be-witched the children of a Mr Throgmorton. Joan Throgmorton, a girl of fifteen, and the eldest of the children, was the main witness for the prosecution. She related many scenes, in which the actors were her-self and a number of spirits sent by Dame Samuel to torment her, and to throw her into fits. These spirits, she said, were on familiar terms with her, and were named Pluck, Hardname, Catch, Blue, and three Smacks, who were *cousins*. Among other things, she said that one of the Smacks professed himself an ad-mirer of hers, and beat the rest for her sake, as in the following instance related by her. One day Smack appeared before her. "Whence come you, Mr Smack!"

she said to him. "From fighting Pluck and the rest, with cowl-staves, in Dame Samuel's back-yard," replied Smack; and soon thereafter, accordingly, Pluck and Blue walked in, the one with his head broken, and the other limping. "How do you manage to beat them?" said the young lady to the victorious Smack; "you are little, and they are big." "Oh," says Smack, "I can take up any two of them, and my cousins beat the rest." Of such stuff were these charges made. It would appear that they were either the offspring of insanity on the part of the youthful Throgmortons, or that, having begun the farce in sport or spite, the accusers found at length that they could not retreat without a disgraceful confession of imposture. In part, the conduct of the poor Samuels was affecting, and even high-minded. After lengthened worrying, the accusers got Dame Samuel indirectly to confess her guilt, by making her repeat a prescribed charm, which had the effect of at once bringing the children out of their fits. But the old man and the daughter steadily maintained their innocence. The unfortunate family were condemned on the 4th April 1593, and soon after executed.

When James I. ascended the English throne, he unfortunately conceived it to be his duty immediately to illuminate the southerns on the subject of witchcraft. An act of the first year of his reign defines the crime with a degree of minuteness worthy of the adept from whose pen it undoubtedly proceeded. "Any one that shall use, practise, or exercise any invocation of any evil or wicked spirit, or consult or covenant with, entertain or employ, feed or reward, any evil or wicked spirit, *to or for* ANY *purpose*; or take up any dead man, &c. &c. &c.; such offenders, duly and lawfully convicted and attainted, shall suffer death." We have here witchcraft first distinctly made, of itself, a *capital* crime. Many years had not passed away after the passing of this statute, ere the delusion, which had heretofore committed but occasional and local mischief, became an epidemical frenzy, devastating every corner of England. Leaving out of sight single executions, we find such wholesale murders as the following in abundance on the record. In 1612, twelve persons were condemned at once at Lancaster, and many more in 1613, when the whole kingdom rang with the fame of the "Lancashire witches;" in 1622, six at York; in 1634, seventeen in Lancashire; in 1644, sixteen at Yarmouth; in 1645, fifteen at Chelmsford; and in 1645 and 1646, sixty persons perished in Suffolk, and nearly an equal number, at the same time, in Huntingdon. These are but a few selected cases. The poor creatures, who usually composed these ill-fated bands, are thus described by an able observer:—"An old woman with a wrinkled face, a furred brow, a hairy lip, a gobber tooth, a squint eye, a squeaking voice, or a scolding tongue, having a ragged coat on her back, a spindle in her hand, and a dog by her side—a wretched, infirm, and impotent creature, pelted and persecuted by all the neighbourhood, because the farmer's cart had stuck in the gateway, or some idle boy had pretended to spit needles and pins for the sake of a holiday from school or work"—such were the poor unfortunates selected to undergo the last tests and tortures sanctioned by the laws, and which tests were of a nature so severe that no one would have dreamed of inflicting them on the vilest of murderers. They were administered by a class of wretches, who, with one Matthew Hopkins at their head, sprung up in England in the middle of the seventeenth century, and took the professional name of *witch-finders*. The practices of the monster Hopkins, who with his assistants moved from place to place in the regular and authorised pursuit of his trade, will give a full idea of the tests referred to, as well as of the horrible fruits of the witchcraft frenzy in general. From each town which he visited, Hopkins exacted the stated fee of twenty shillings, and, in consideration thereof, he cleared the locality of all suspected persons, bringing them to confession and the stake in the following manner:—He stripped them naked, shaved them, and thrust pins into their bodies to discover the witch's mark; he wrapped t sheets, with the great toes and thumbs tied t and dragged them through ponds or rivers, they sunk, it was held as a sign that the baptis ment did not reject them, and they were clear if they floated (as they usually would do for a they were then set down as guilty, and doom kept them fasting and awake, and sometimes santly walking, for twenty-four or forty-eight h an inducement to confession; and, in short, p on the accused such abominable cruelties, th were glad to escape from life by confession. If could not shed tears at command (said the furth of this wretch's creed), or if she hesitated at a word in repeating the Lord's Prayer, she was in with the evil one. The results of these and sim tests were actually and universally admitted as evi by the administrators of the law, who, acting them, condemned all such as had the amazing cou to hold out against the tortures inflicted. Few g courts that trouble. Butler has described Hopk his Hudibras, as one

> "Fully empower'd to treat about
> Finding revolted witches out.
> And has he not within this year
> Hang'd *three score* of them in *one* shire?
> Some only for *not* being drown'd;
> And some for sitting above ground."

After he had murdered hundreds, and pursued trade for many years (from 1644 downwards), th of popular opinion finally turned against Hopkins, he was subjected, by a party of indignant experimen to his own favourite test of swimming. It is said he escaped with life, but, from that time forth, h never heard of again.

The era of the Long Parliament was that, perh which witnessed the greatest number of executions witchcraft. *Three thousand persons* are said to perished during the continuance of the sittings of body, by legal executions, independently of simil deaths at the hands of the mob. Witch-execut however, were continued with nearly equal freque long afterwards. One noted case occurred in 1 when the enlightened and just Sir Matthew Hale t and condemned two women, Amy Dunny and R Callender, at Saint Edmondsbury, for bewitching dren, and other similar offences. Some of the item the charge may be mentioned. Being capriciously fused some herrings, which they desired to purchase two old women expressed themselves in impatient guage, and a child of the herring-dealer soon afterw fell ill—in consequence. A carter drove his wa against the cottage of Amy Dunny, and drew from some not unnatural objurgations; immediately which, the vehicle of the man stuck fast in a gate, out its wheels being impeded by either of the posts the unfortunate Amy was credited with the acci Such accusations formed the burden of the dittay addition to the bewitching of the children. These y accusers were produced in court, and, on being tou by the old women, fell into fits. But, on their being covered, they were thrown into the same co sions by *other* parties, precisely in the same way. the face of this palpable proof of imposture, and d the general absurdity of the charges, Sir Matthew committed Amy Dunny and Rose Callender t tender mercies of the hangman. It is stated tha opinion of the learned Sir Thomas Browne, wh accidentally present, had great weight against th soners. He declared his belief that the children truly bewitched, and supported the possibility of possessions by long and learned arguments, theol and metaphysical. Yet Sir Matthew Hale was the wisest and best men of his time, and Sir Th Browne had written an able work in exposit Popular Fallacies!

This case occurred in 1664. For some subse years trials and executions were yet far from ra

hief-Justices North and Holt, to their lasting credit, ere the first individuals occupying the high places of e law, who had at once the good sense and the cou-ge to set their faces against the continuance of this estructive delusion. In one case, by detecting a piece f gross imposture, Chief-Justice North threw into dis-pute, once and for all, the trick of *pin-vomiting*, one f the most striking and convincing practices of the ossessed. A male sorcerer stood at the bar, and his pposed victim was in court, vomiting pins in profu-ion. These pins were straight, a circumstance which ade the greater impression, as those commonly ejected such cases were bent, engendering frequently the spicion of their having been previously and purposely eed in the mouth. The chief-justice was led to sus-ect something in this case by certain movements of e bewitched woman, and, by closely cross-questioning e of her own witnesses, he brought it fully out that e woman placed pins in her stomacher, and, by a ecurous dropping of her head in her simulated fits, icked up the articles for each successive ejection. The an was found guiltless. The acquittal called forth ch pointed benedictions on the judge from a very old oman present, that he was induced to ask the cause. Eh, my lord," said she, "twenty years ago they would ve hanged me for a witch if they could, and now, but your lordship, they would have murdered my inno-nt son."

The detected imposture in this case saved the accused. was under Holt's justiceship, however, that the first quittal is supposed to have taken place, in *despite* of evidence, and upon the fair ground of the general surdity of such a charge. In the case of Mother mmings, tried in 1694, the unfortunate pannel would ssuredly have perished, had not Chief-Justice Holt summed up in a tone so decidedly adverse to the pro-ecution, that the verdict of Not Guilty was called forth om the jury. In about ten other trials before Holt, tween the years 1694 and 1701, the result was the me, through the same influences. It must be re-membered, however, that these were merely noted ses, in which the parties withstood all preliminary ducements to confession, and came to the bar with plea of not guilty. About the same period, that is, ring the latter years of the seventeenth century, mmary executions were still common, in consequence confessions extracted after the Hopkins fashion, yet much in favour with the lower classes. The ac-dentals mentioned only prove that the regular mini-ers of the law were growing too enlightened to coun-nance such barbarities. Cases of possession, too, re latterly overlooked by the law, which would have ought the parties concerned to a speedy end in earlier ys, even though they had done no injury to other ople, and were simply unfortunate enough to have ade compacts with the demon for the attainment of me purely personal advantages. For example, in 03, there occurred the famous case of a youth, named mbard Dugdale, who sacrificed himself to the devil, condition of being made the *best dancer* in Lanca-re. The dissenting clergy took this youth under eir charge, and a committee of them fasted and ayed, publicly and almost incessantly, for a whole ar, in order to expel the dancing demon. The idea this impostor leaping for a twelvemonth, and playing ntastic tricks before these grave divines, is extremely licrous. But the divines played tricks not less fan-stic. They became so contemptuously intimate with e demon, as to mock him on account of saltatory de-ficiencies. A portion of their addresses to him on this asion has been preserved, but of too ridiculous a na-re for quotation in these pages. If any thing else an a mere impostor, it is probable that Dugdale was fected with St Vitus's Dance; and this is the more kely, as a regular physician brought his dancing to a se after all. But the divines took care to claim the edit of the cure.

After the time of Holt, the ministers of the law went step farther in their course of improvement, and spared the accused in spite of condemnatory *verdicts*. In 1711, Chief-Justice Powell presided at a trial where an old woman was pronounced guilty. The judge, who had sneered openly at the whole proceedings, asked the jury if they found the woman "guilty upon the indict-ment of conversing with the devil in the shape of a cat?" The reply was, "We do find her guilty of that;" but the question of the judge produced its intended effect in casting ridicule on the whole charge, and the woman was pardoned. An able writer in the Foreign Quarterly Review remarks, after noticing this case, "yet, frightful to think, after all this, in 1716, Mrs Hicks, and her daughter, aged *nine*, were hanged at Huntingdon for selling their souls to the devil, and raising a storm by pulling off their stockings, and mak-ing a lather of soap! With this crowning atrocity, the catalogue of murders in England closes." And a long catalogue, and a black catalogue it was. "Barrington, in his observations on the statute of Henry VI., does not hesitate to estimate the numbers of those put to death in England, on this charge, at THIRTY THOUSAND!"

We have now glanced at the chief features in the history of witchcraft in England, from the enactment of the penal statutes against it. These statutes were not finally abolished till the middle of the eighteenth century, and unhappy consequences followed, in various instances, from their being left unrepealed. Though among the enlightened classes the belief in witchcraft no longer existed, the populace, in town and country, still held by the superstitions of their forefathers, and, having the countenance of the statute-book, persecuted the unfortunate beings whose position and circumstances laid them open to the suspicion of sorcery. The ban of public opinion told severely enough upon the comforts of such poor creatures, but the rabble occasionally carried their cruel and ignorant oppressions to a greater length. On the 30th of July 1751, an aged pauper named Osborne, and his wife, were seized by a mob in Staffordshire, dragged through pools, and otherwise so vilely misused, that the woman died under the hands of her assailants. The attention of the law, and the indignation of the humane, were aroused. One man, who had taken a prominent share in the brutal outrage, was condemned on trial, and executed. Immediately afterwards, the penal statutes against witchcraft were abrogated by the legislature, and the remembrance of them only remains, as a wonder and warning to the posterity of those who practised and suffered from them, as well as to mankind at large.

It must not be imagined, we may observe in conclu-sion, that the present generation has no need of such a warning, or is relieved by its increased enlightenment from all chance of falling into similar errors. The nineteenth century has witnessed such impostors as Johanna Southcote, Matthews, and Thom, and has seen a degree of enthusiastic and unhesitating credence given to their pretensions by many persons moving in a most respectable rank in society, which shows that the cre-dulous spirit that created and supported witchcraft is not by any means extinguished. It is indeed a spirit only to be fully eradicated by such a universality of education and intelligence as can scarcely be expected to exist, excepting after the lapse of long-coming cen-turies of improvement. The subject which has been treated of here, has therefore a moral. In brief words, the world may learn from it the peril of encouraging the idea of the possibility of direct spiritual influences and communications in these latter days—a thing dis-countenanced alike by the lights of reason and scripture.

SPECTRAL ILLUSIONS.

The subject of spectral illusions, or, to use the common phraseology, apparitions or spectres, is now, in the esti-mation of scientific and properly informed men, one of the simplest and most intelligible to which the mind can be directed; while, to the ignorant, it still appears full of doubt and mystery. An apparition, spectre, ghost, or whatever it may be called, is vulgarly supposed to be a supernatural appearance—a thing occurring out of the

in structure by disease. Disease of the brain, which involves organic mental disorder, is properly disease of the body, but enduring lunacy or fatuity, existing (if they can do so) without disease in the structure of the brain, may also be called organic disorder of the mind. These explanations will show what is meant by that epithet, as applied either to affections of the mind or body. Functional disorder, again, of the mind or body, is that condition of things where the healthy action of the organ or organs, in part or whole, is impeded, without the existence of any disease of structure. It may be said that violent excitement of the imagination or passions constitutes functional mental disorder; "anger is a temporary madness," said the Romans wisely. As for functional bodily disorder, temporary affections of the digestive organs may be pointed to as common cases of such a species of physical derangement. All these disorders, and kinds of disorders, may appear in a complicated form, and, what is of most importance to our present argument, the *nervous system*, on which depends the action of the *senses*, the power of *volition*, and the operation of all the involuntary functions (such as the circulative and digestive functions), is, and must necessarily be, involved more or less deeply in all cases of constitutional disorder, organic or functional. These powers of the nerves, which form the sole medium by which mind and body act and react on each other, give us a clue to the comprehension of those strange phenomena called spectral illusions, which depend on a combination of mental and physical impressions.

Organic mental disorder generates spectral illusions. Almost every lunatic tells you that he sees them, and with truth; they are seemingly present to his diseased perceptions. The same cause, simple insanity, partial or otherwise, and existing either with or without structural brain disease, has been, we truly believe, at the foundation of many more apparition-cases than any other cause. By far the greatest number of such cases ever put on record, have been connected with fanaticism in religious matters; and can there be a doubt that the majority of the poor creatures, men and women, who habitually subjected themselves, in the early centuries

the disease, but when his stomach reje
ishment, and he persists in taking stim
are for the most part speedily visible,
liarly nervous constitutions. The firs
monly a slight impairment of the hea
senses of hearing and seeing. A ri
probably takes place; then any comm
the rattle of a cart on the street, assu
a particular sound, and arranges its
tune perhaps, or certain words, which
and are by and bye rung into his ears
of *every* noise. The proverb, "as th
the bell tinks," becomes very applicab
sense of seeing, in the mean while, beg
disorder; figures float before him per
eyes are closed at night. By day, als
move before him that are really static
of touch, taste, and smell, are also invo
In this way the disturbance of the
increasing always with the disorder
function, until the unhappy drinker
most probably in the twilight, by
distinct in outline as living beings, a
speak to him with the voice of life. A
them for realities, but, soon discove
thrown into the deepest alarm. If h
to approach and examine any one of th
he probably finds that some fold of
shadow, has been the object convert
sense into the apparition, and he may
voice was but some simple household
by his disordered ear into strange spee
at least in the milder cases of this sor
than *create*, though the metamorp
widely from the real substance. Th
sufferings of the party may go on i
takes courage to speak to the physici
care, restores his alimentary organs t
and, in consequence, the visions slow
however, remedies are not applied i
will probably sink under the influenc
The spectral figures and voices, being

l him to go away; but receiving no answer, he forward to seize the intruder, and to his horror the shape to be but a phantom! The visitations ied by night and by day, till he could not distinreal customers from imaginary ones, so definite stinct were the latter in outline. Sometimes they e forms of living friends, and sometimes of people ead. Dr Alderson resorted to a course of treatvhich restored the strength of the digestive orand gradually banished the spectres. At the close account, it is said that the man emphatically sed himself to have now received "a perfect tion of the nature of ghosts."

ıy additional cases from Hibbert, Abercromby, her writers, might be quoted, in which the visual sions and perceptions were in a similar way d by the influence of digestive derangement. But loubt can rationally exist on the point, from the rative commonness of the disease, no more proof be brought forward. However, the inference lly deducible from these facts is too important overlooked. Here we find, by unquestionable l evidence, that a man walking about in apparent health, and mentally sane, may nevertheless be t to most distinct visitations of spectral figures, f them in the semblance of *dead* persons. We is, we repeat, to be within the range of natural mena. Now, is it not more likely, in those cases wonderful apparitions are reported to have been that the whole was referable to such natural , than that the grave gave up its dead, or that s of the universe were specially broken in upon other way! Even with only one such admitted of spectral illusions as the malady alluded to, ould certainly err in passing it by to seek for ations in supernatural quarters. But in reality ve *many* causes or sources of them, and to these all now look, in continuation of our argument.

ong the other varieties of bodily ailments affecting structure or function, which have been found to e spectral illusions, fevers, inflammatory affecepileptic attacks, hysteria, and disorders of the generally, are the most prominent. As refevers and inflammatory affections, particularly of the brain, it is well known to almost every r or member of a large family, that scarcely any case can occur without illusions of the sight to a r or less extent. In hysteric and epileptic cases, here fits or partial trances occur, the same phea are frequently observed. But we shall not en- the effects produced by the influence of severe viously existing maladies, as it is in those cases here the spectre-seer has exhibited *apparent* of mind and body, that special wonder has been . It is so far of great importance, however, to that these diseases do produce the illusions, as t cases it will be found on inquiry that the party t to them, however sound to appearance at the *fterwards* displayed some of these complaints in ree; and we may then rationally explain the matter by supposing the seeds of the ailments to arly existed in a latent state. A German lady, of nt talents and high character, published an acome years back of successive visions with which d been honoured, as she believed, by Divine fa-

Dr Crichton, however, author of an able work anity, found that the lady was always affected he *aura epileptica* during the prevalence of the ns; or, in other words, that she was labouring slight attacks of epilepsy. Thus simply was exd a series of phenomena which, from the high ter for veracity of the subject of them, astonished t part of Germany. Another case, where funcbodily disorder of a different and very simple was present in an unrecognisable state, and proextraordinary illusions, was the famous one of i, the Berlin bookseller. This individual, when erfectly fit state to attend to his ordinary busiwas suddenly visited one day, when casually excited by some annoying circumstance, by the figure of a person long dead. He asked his wife, who was present, if she saw it; she did not. The bookseller was at first much alarmed, but, being a man of sense and intelligence, he soon became convinced of the illusory yet natural character of the spectra, which subsequently, for a period of two whole years, appeared to him in great numbers, and with daily frequency. "I generally saw (says he) human forms of both sexes, but they took not the smallest notice of each other, moving as in a market-place, where all are eager to press through the crowd; at times, however, they seemed to be transacting business with one another. I also saw several times people on horseback, dogs, and birds. All these phantasms appeared to me in their natural size, and as distinct as if alive; none of the figures appeared particularly terrible, comical, or disgusting, most of them being of an indifferent shape, and some presenting a pleasing aspect. The longer these phantoms continued to visit me, the more frequently did they return." They also spoke to him repeatedly.

These phantasms lasted, as we have said, two years. The issue is peculiarly worthy of note. Nicolai had in former years fallen into the habit of periodical bloodletting by leeches, but had ventured to stop the practice previous to the accession of the phantasms, and during their prevalence he had only been advised to attend to the state of his digestive organs. After they had endured for the time mentioned, it was thought fit to renew the blood-letting. At eleven in the morning, while the room was crowded with the spectral figures, the leeches were applied. As the bleeding slowly proceeded, the figures grew dimmer and dimmer, and finally, by eight o'clock in the evening, they had all melted into thin air, never to re-appear! This most remarkable case, the first in which any individual dared calmly to come forward and avow such an affection, at the risk of incurring the charge of insanity, was founded, we thus see, simply on a plethoric or surcharged state of the blood-vessels. Nicolai deserves great credit for the philosophic composure with which he recorded the phenomena presented to him; but his statement, which has often been republished in this country, seems defective in some points, and, from the interest of the subject, we may be pardoned for presuming to notice these. Generally speaking, he represents his spectral visitants as things which came and went, and assumed various shapes, and appeared in certain numbers, *uninfluenced* directly *by himself*. The total dependence which they had upon his own fancy of the *moment*, is not put clearly before us, though, by the truthful accuracy of his narrative, he unconsciously makes that fact apparent every instant. The surcharged state of the vessels was the fundamental cause of the phantasms, but his own passing fancies moulded them for the passing moment into shape, regulated their numbers, and gave them words. How could it be otherwise? The whole panorama was exhibited on his own retina, and the working brain behind was the manager and scene-shifter of the show.

Second-Sight.—Second-sight, taking the word in its common acceptation of supernatural sight-seeing, is one of the varieties of spectral illusion. Certain mental functions becoming diseased, the sense of sight is imposed upon by the appearance of things which are purely imaginary, but nevertheless supposed to be prophetic of future events. Idleness, solitude, insufficient diet, and an imagination led astray by ruminating too intensely on the causes of human weal and wo, may be assigned as the prevailing causes of the disease. The Lowland Scotch used occasionally to see *wraiths*, or spectral appearances of persons who were soon to quit this mortal scene; the Irish were also accustomed to the spectacle of *fetches;* and the Highlanders had their *second-sight*—the whole, be it observed, being but a variety of the same mental disease and delusion.

Second-sight, however, has formed the subject of a more regular profession than any other species of spectral frenzy. There were persons, who, possessing from infancy a defective mental constitution, or having a

less rules affecting its exercise, and the interpretation of its visions. If a vision occur by day, for example, the accomplishment of what it is supposed to predict will be speedy; if by night, less so. An exact proportion, indeed, is maintained in this respect—the morning vision being sooner fulfilled than that of noon; the latter more quickly than that of the afternoon; and so on. If the seer beholds a figure in a shroud, it is considered a sure sign of death to the party represented by the figure; and, according to the extent to which the shroud covers the body, the end will be quicker or slower. If a woman be seen at a man's left hand, it is a presage that she will be his wife, and this will be the case (say the true believers) though even both should then be married. If more than one woman be seen standing at a man's left hand, they will be married to him in rotation, as they stand nearer or farther from his arm. A seer often announces that such and such a guest will arrive at a certain hour, and, though a hundred miles away, the guest, it is said, will appear at the stated time. If a seer observe a vision of trees and crops in some spot or another, though perfectly barren and bare at the moment, wood and grain will, it is believed, there be seen in due time. A visionary house is beheld by the gifted eye, in a place where stone and lime were never laid, or expected to be laid. Yet there will the real house forthwith be seen. To see a seat as if vacant when one is sitting in it, is a presage of the party's death. The seer may behold crowds of people, or single individuals, and very frequently he meets imaginary funeral parties, and determines the coming decease by the apparent mourners.

These rules of vaticination are *said to be* unvarying. No ordinary person sees the vision while it is present to the seer, but the same vision often appears to two or more of the gifted, either while they are together or apart. The Highlanders believe that children and the lower animals, such as cows and horses, behold the appearances while they are before the seer. This is made plain, they say, in the case of the animals, by the trembling which seizes them at the moment; and frequently the children will cry, and, if asked the reason, will tell what unusual thing they behold or have beheld. It is almost needless to say, that the stories told to prove the truth of these notions, rest on no sure foundation,

mospheric refraction, an wou
natural phenomena, having n
event, good or evil.

Dreams.—It has now been a
modes in which the system m
produce spectral illusions, an
of these cases, the parties sul
to be not only of sound min
health. Another mode of ex
scription may now be pointed
ritions which have been vouch
to them, have certainly been n
vivid dreams. A dream is a
action of the thinking faculties
sleep; in other words, when
thinking in a partially waken
the thought is in all cases but
perfectly natural in its opera
which causes it being produ
tional derangement: the sto
more out of order. No dream
sleep. In the greater numbe
awakened mind embarrasses
collections of things formerly
dressing these up in a new an
of drama is performed, having
A servant girl living in a famil
phrenological busts, and, amo
one of Curran, awoke her bed
with the alarming information
stood at the foot of the bed dr
and having on his pale face th
like ornament of an immense
The other servant could see n
rition seemed to her compani
some minutes. On the tale be
light was thrown on the matt
house had a yacht, and its sai
frequently about the premise
fatigued, and having her dre
between her household duties
beau of the yacht, the girl's
Curran's bust, an object most
the way mentioned, giving him
whiskers as a fitting appendag

d, a hand and an arm, when the stroke was given, heard.' The devil said to him, 'Saw you that? It not my hand, it was my father's; my hand is more in the loof (palm). Would you see me,' says the thief, 'put out the candle, and I shall come butt house (into the outer room) among you like fire-,'" &c. The visit of the minister was unavailing. out this time the devil began with new assaults; taking the ready meat which was in the house, did times hide it in holes by the door-posts, and at r times hid it under the beds, and sometimes g the bed-clothes and under the linens, and at did carry it quite away, till nothing was left there bread and water. The goodwife, one morning ing porridge for the children's breakfast, had the ien plate, wherein the meal lay, snatched from her kly. 'Well,' says she, 'let me have my plate again.' reupon it came flying at her, without any skaith ." Any further extract from this ridiculous, though ne time universally believed, narrative, would be cessary. A modern police-officer would have effec- y relieved "the afflicted family," by instantly dis- ring the performer of the tricks, and taking him custody.

sides the belief in aërial and terrestrial spirits, our ulous ancestors put faith in all kinds of romancing es of river and sea demons. The more prevalent ese superstitious notions was a belief in mermaids mermen, a class of creatures who lived in the sea, ad bodies half-human half-fish. Mermaids appear ve been much more common than mermen. The naid, we are told, possessed the body, from the ls upwards, of a beautiful female, with a head flow- ith long yellow hair, which she incessantly combed one hand, while she held a small mirror with the r. This female monster of the deep is described ving been a constant schemer of destruction to ding navigators, or those who haunted unfrequented of the sea-shores.

nother of the vulgar superstitions of our ancestors a belief common to nations of Germanic origin, the corpse of a murdered person would bleed on touched by the person who was guilty of the der. Strange to say, this species of evidence of was at one time admitted in the Scottish criminal ts. The following incredible instance was commu- ed to Sir Walter Scott, and is given in his Min- y of the Scottish Border (vol. ii. p. 54.) "Two g men, going a-fishing in the River Yarrow, fell and so high ran the quarrel, that the one, in a on, stabbed the other to the heart. Astonished at ash act, he hesitated whether to fly, give himself justice, or conceal the crime; and in the end, on the latter expedient, burying the body of his d very deep in the sands. As the meeting had accidental, he was never suspected, although a le change was observed in his behaviour, from y to a settled melancholy. Time passed on for the of fifty years, when a smith, fishing near the same , discovered an uncommon and curious bone, which t in his pocket, and afterwards showed to some e in his smithy. The murderer being present, an old white-headed man, leaning on his staff, de- a sight of the little bone; but how horrible was ene!—no sooner had he touched it, than it streamed purple blood. Being told where it was found, he ssed the crime, was condemned, but was prevented eath from suffering the punishment due to his ." We need only add, that no evidence is given e truth of this improbable tale, and it is utterly rthy of belief.

norance has often been justly termed the mother perstition; wherever mankind are most ignorant, ast accustomed to trace events to their natural roximate causes, there do all kinds of superstitious notions luxuriantly flourish. When the mind allows that matters of ordinary occurrence take place by the interference of invisible agents, such pirits, apparitions, devils, and so forth, there is

spinnage. The infants are on a Monday morning taken to this woman, who, for threepence, cuts through the lobe of the ear with a pair of scissors, then makes a cross with the blood upon the forehead and breast of the child. On the following Monday, the same barbarous ceremony is performed upon the left ear ; and on the succeeding Monday the right ear is again doomed to undergo the same ceremony. In some cases it is deemed necessary to perform the operation nine times."

The occurrence in 1840 of a fatal disease in cattle, called the *murrain*, and which was susceptible of remedy by proper surgical means, led to the exposure of various superstitious observances among a respectable class of the rural population of England. In Northumberland, a fire kindled by rubbing together two pieces of hard wood, was carried about in an old shoe from one house to another, and thus passed through the country ; with this a bonfire was lighted, and the cattle were made to pass through its smoke, which was supposed to render them invulnerable to the attacks of the disease.

In Scotland, cattle are the subject of scarcely less superstitious maxims. In many districts, if a cow has been seized with *phthisis pulmonalis*, or any inflammatory disorder, or if she has become *hide-bound*, or rumination has been accidentally stopped, the wise people called in to minister know but one explication of the mystery : the beast has got the *tail-ill*. This is an imaginary disorder supposed to reside in the tail, and to show itself by eating away the bone of that organ. To prove its presence, the cow-doctor will ask the owner of the animal to feel the tail near its extremity, and satisfy himself that the bone is "clean awa," the fact being that in that region there is only a soft cartilage. Under this miserable delusion, the people make incisions in the tails of cattle, into which they rub salt, soot, or horse turpentine, thus adding to the pains of the animal, without doing the least for the relief of the real malady. Often a considerable portion of the tail is cut off, by way of making the cure more certain. An educated veterinary surgeon of our acquaintance informs us that, in some cow-houses in his neighbourhood, there is not a cow with a tail above sixteen inches long.

posited in a gold box which Th
Theresa presented to the father
Lockhart.

The Lee Penny did not lose its t
on being transferred to a country
the contrary, it has been all along, e
day, remarkable for medical virtue
sovereign in the diseases of horned
of administering it is this :—Holding
is three times plumped down into a
and once drawn round—*three dips*
country people express it—and, th
affected drinking this water, the c
effectual. Even at this day, rife as
said or supposed to be, people som
great distances with vessels, which t
charmed in the manner described, a
home in order to administer it to the
reign of Charles I., the people of
afflicted with the plague, sent for an
of the Lee Penny, leaving the sum
in its place as a pledge. They found
were impressed with so high an opi
that they proposed to keep it, and
but the Laird of Lee would not cons
venerable and so gifted an heir-loo
that time was a high Cavalier, and
brought against him by the party w
pose, was, that he effected cures b
mancy. One other remarkable inst
is recorded. About the beginning o
Lady Baird of Saughtonhall having
dog, and exhibiting all the symptom
her husband obtained a loan of the
having drunk and bathed in water w
fled, got completely better. That this
took place, seems indubitable, for
member of the Lee family, who died l
hearing the laird who lent the Pen
describe how he and his dame had
Saughtonhall, and splendidly enterta
for the use of the talisman. Being
incredible number of persons, wh

S'S

THE PEOPLE.

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COOKERY.

tion than others, but none can be properly
d if left long to itself. A good cook is pretty
in her visits to the fire, to see how the opera-
dressing is going on, and seizes the proper
in giving her assistance.
tion in the art of cookery is only attainable by
d experience, and a careful study of the
of meats, and the application of sauces and
s. It is chiefly in knowing how to make and
ces that a cook shows her skill. We therefore
nd this branch of the art to very careful atten-

KITCHEN ARRANGEMENTS.

ng and thriftily disposed housewife will, if
proceed to market herself, in order to lay in
meat and other fresh provisions for her family.
han she will possess two advantages—that of
the best pieces, and of getting them at the
ice. The frequency of her visits to the mar-
of course, depend on the number of her family,
taste as to the staleness or freshness of the
be purchased. If circumstances permit, it is
to purchase a whole week's provisions at a
least the chief things which will be required
ensuing eight days. We would recommend a
e to act upon a system in varying the kinds of
ich she buys, not only as they may be suitable
asons, but as calculated to promote the health
ly. It is of considerable consequence that food
variety; indeed, sameness of diet will produce
injurious effects, whatever be the quality of
which is taken. Let the housewife, therefore,
a little ingenuity and judgment in her market-
ditions, contriving to present at table a succes-
different descriptions of animal and vegetable
, for example, sometimes meat roasted, and
s boiled or stewed; sometimes fresh meat, and
s salted; sometimes butcher-meat, and some-
; and so on, according to taste and other cir-
es. It does not necessarily follow, that, in
ing the bill of fare, greater expense is incurred
e same kind of articles were continually pur-

at meat is that which is moderately fat. If it
r almost free of fat, it is an indication that the
as been ill fed, and that the meat will prove
d tasteless. Avoid lean beef—it forms wretched
d will be dear at any price. The fat of good
ightly yellowish; the fat of good mutton is pure
The flesh of both beef and mutton should be
r red colour. The mutton of black-faced sheep,
downs, is the most tender or sweet, and may
by the shortness of the shank. Mutton is in
n at between four and five years, but is seldom
d older than three years. Cow and bull beef
derably inferior to ox beef.

The age of game is of little consequence, as it is hung for a considerable length of time before dressing.

All kinds of fish, except salmon, should be purchased as fresh as possible. Freshness in cod, haddock, and generally all fish, is indicated by stiffness in all parts of the body, and a clear glittering appearance in the scales. Freshness is likewise known by the smell. If there be the least staleness, the fish has an offensive odour. As tricks are sometimes performed with the eyes and gills, freshness of appearance in these is not to be trusted.

It is very difficult to ascertain when eggs are perfectly fresh. There are different rules on the subject, but they are all liable to failure. One mode of judging, is to hold the egg between the eye and the light of a candle, shadowing the eye with the hand; if the appearance is universally luminous without any cloudiness, the egg is fresh; if cloudy or not uniformly luminous, it is probable that the egg is unfit for use.

Butter may be easily selected by the taste and the smell; but in buying both eggs and butter, it is best to deal with a person on whom you can rely, as it is troublesome to be continually seeking out and examining these articles to determine their freshness.

Good ham and bacon have a fresh savoury smell; the fat is white, and free from any yellowness. If it be yellow, reject it, as it will soon become rank and rusty.

Flour for culinary purposes should be new and fresh. Old flour is liable to spoil and become full of animal life, in which condition it is unfit for pastry and other dishes. The best kind of salt for the kitchen is that which is purchased in lumps and cut down.

Keeping Meat.—A larder is a place where fresh meat is kept till it is in a fit state for being cooked, and where cold meat or any other kind of food may be set aside. The larder should be cool and dry, with the outer air playing freely through it. It should also be impervious to vermin or insects, particularly flies. Two or three shelves, and a few strong iron hooks for hanging the meat, are the only furniture.

Beef and mutton are always improved by hanging some time after being killed before they are cooked. The length of time which they may be kept depends on the state of the weather. The best weather for the purpose is when the atmosphere is cool, clear, and dry; in such circumstances, beef and mutton may hang from four to ten days; mutton, if well managed, may hang a fortnight or even three weeks. A moist thick atmo-

warm, as in that case the jui
remain to enrich the meat.

Keeping Vegetables.—Veget
be used as soon after gathe
begin to ferment, and to los
their wholesomeness, very sl
from the ground. When th
kept for a day or two, place
and cool situation, but not exp
Keep also each kind of vegetal
to prevent contamination of fla
be washed or placed in wate
being used.

Kitchen Range.—The mos
cooking apparatus is the rang
too little care is bestowed by y
up housekeeping, in making
article. A common error e
which are too large, and wh
more fuel than is necessary, ei
forth heat. One of the chief
to cook victuals with the sm
coal. To effect this desirabl
of a small size, consisting of
large enough for only one v
the one side and a boiler on
going round the back of the
whole to be flat. The fire in
the water in the boiler withou
a great measure render the u
necessary. The fire will als
the oven, which at least will
plates; and if required for bak
of live coal put into the furn
cient. A range of this descrip
£4, 10s., will at once roast
bake a dish in the oven, th
separate or large oven, and
at least three vessels on the
and oven. Care should be ta
in such a manner that the s
pass upwards behind to the
gether of iron, this kind of
building.

The main advantage of suc
and large supply of hot water
one experienced in the way
[illegible]

rs to roast; but this, as well as the time for the other parts, must be regulated by the size weight of the meat, and can be learned only by . The joint of mutton should be basted the beef, with its own dripping. A gravy for roast as in the case of beef, may be made by pouring ot water and salt over it; if wanted of a richer a gravy sauce may be made from beef, as under the head SAUCES. Most persons prefer well done." In roasting the loin, take away rrounding the kidney, otherwise the dish, on ought to table, will, when cut up, be floated The back-ribs and loin of mutton ought to ointed or cut before being put to the fire.

st Venison.—Venison is roasted in the same as mutton, but requires longer time at the fire. h a dry meat, and the fat is so easily melted, hould be covered with buttered paper, and well Serve with a good gravy and currant jelly.

st Veal.—The best parts of veal for roasting fillet, the breast, the loin, and the shoulder. t and the breast should be stuffed, particularly ; the stuffing to be composed of crumbs of hopped suet and parsley, a little lemon peel, per and salt, wet with an egg and a little milk. e should have a slow fire at first, and will re- ger time to dress than beef or mutton. Let basted with butter when there is not sufficient from the joint. The gravy for roast veal is e usual hot water and salt, or thin melted oured over the meat.

st Fillet of Veal.—The fillet of veal, which is the hy part of the hind leg, requires care in the ion for roasting. The knuckle or bone must ut neatly, without disfiguring the joint; then flap, as above; roll it up firmly, and bind it e or string. Allow the stuffing in this, as in cases, room to expand in dressing. Cover the buttered paper, and baste the piece frequently ter. Take off the paper a short time before is done. Gravy as above. This dish may be d with sliced lemon.

st Lamb.—Lamb also requires to be well It is usually dressed in quarters; all parts, rly the spinal bone, should be well jointed or e butcher or cook; and the ribs of the fore broken across the centre, in order to accom- he carver. In roasting, baste, as already de- with its own dripping. The gravy for lamb the same as for beef or mutton, namely, hot d salt poured over it; it is also customary to up with mint sauce in a small tureen.

st Pork.—Pork requires a longer time in than any of the preceding meats. When is to be used, it must be composed of chopped onion, pepper and salt. The pieces should be d well scored in regular stripes on the outer enable the carver to cut slices easily. Before o the fire, rub the skin with salad oil, to prevent ring, and baste very frequently. The basting done by rubbing it with a piece of butter in a ag, where there is not enough of dripping. The r pork may be the same as for other joints, hot d salt poured over it on the dish. It is con- an improvement to have apple-sauce served in ureen, as it assists in overcoming the richness ness of the meat, and imparts a slight acidu- our.

st Sucking-Pig.—The animal being properly l and cleaned by the butcher, the cook will to cut off the feet, and fill the inside with a composed of chopped sage, crumbs of bread, epper, and salt. The quantities of these re- ingredients must be regulated by the judgment e of the individual. The principal ingredient . The stuffing being mixed and filled in, sew slit. No skewering is required. In roasting, th butter, as directed for pork. The time for will be from two to three hours, according to

the size. The skin should be crisp, and nicely browned. Before bringing to table, split down the back from head to tail, and lay it flat in the dish with the skin side uppermost. The head is cut off, and, being split in two, a half is laid at each end. The brains are taken out, and, with the liver, which has been previously boiled and finely chopped, is mixed either with beef or veal gravy in a small tureen. Apple-sauce is also used. This is the most approved mode of serving up sucking-pig.

To roast Bullocks' Heart.—Wash the heart well, freeing it completely from blood. Then fill all the openings at the top or broad end with a stuffing composed of crumbs of bread, chopped suet, parsley, pepper and salt, moistened with an egg and a little milk. Suspend with the pointed end downwards. An hour and a half or two hours, according to the degree of heat, will cook the dish. It should, however, be well done. Send to table with beef gravy.

To roast Pigeons.—Pick and draw them well, and truss, keeping on the feet. Make a stuffing of the liver chopped, crumbs of bread, minced parsley, pepper, salt, and a little butter; put this inside. Make a slit in one of the legs, and slip the other leg through it. Skewer and roast them for half an hour, basting them well with butter. Serve with brown gravy in a small tureen. Some serve roast pigeons, or game, with toast bread beneath them, and bread sauce.

To roast Fowls.—Pick, draw, and singe them. A fowl should be so cleanly or well drawn as to require no washing. Take care not to break the gall-bag in drawing; if the gall be spilled, it will communicate a bitter taste to every part it touches. Press down the breast-bone. Break the legs by the middle of the first joint, drawing out the sinews, and cutting of the parts at the break. It being proper that roast fowls should have a neat appearance at table, it is customary to truss them, that is, to fix their legs and wings in a particular position. This is done by fixing down the knees of the animal close to the tail by a skewer or piece of string, leaving the stumps of the legs projecting. The pinion ends of the wings are then turned round on the back, the liver being placed as an ornament in one wing and the gizzard in the other. Cut the head off close to the body, leaving a sufficiency of the skin to be tied or skewered on the back. Baste well with butter for some time after putting to the fire. Suspend neck downwards. The time of roasting will vary from half an hour to an hour, according to the size of the chicken or fowl. When fowls are large, they are frequently stuffed like turkey.

Serve roast fowls with melted butter or gravy sauce. Before sending to table, remove all skewers and strings which may have been used in trussing. This, which should be done in all cases of serving dishes to table, is too frequently neglected, and shows slovenliness in cookery. Fowls and all other feathered animals are served with the breast upwards.

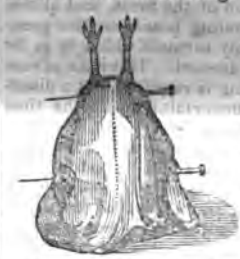
To roast Turkey.—Pick, draw, and singe the turkey well. Press down the breast-bone, and follow all the directions given for trussing fowls. The breast should be stuffed with crumbs of bread, minced beef suet or marrow, minced parsley, a little nutmeg, pepper and salt; wet it with milk and egg; a little sausage meat may also be added. On finishing, sew up the orifice or neck. Before putting to the fire, cover the breast with a sheet of writing-paper well buttered, to preserve it from scorching, and which may be removed a short time before taking from the fire, to allow the breast to be browned. Baste well with butter. A turkey will take from an hour and a half to two hours. Serve with gravy sauce and bread sauce.

To roast Partridges.—Pick, draw, singe, and clean these birds the same as fowls. Leave the head on. Make a slit in the neck, and draw out the craw. Twist the neck round the wing, and bring the head round to the side of the breast. The legs and wi trussed in much the same manner as fowls, are left on, and crossed over one into the ot in the annexed figure. Baste well with but clear fire. When about half done, dust s over them to be browned. A partridge wi twenty minutes to half an hour, and a pa quarters of an hour. Serve on toasted b gravy and bread sauce; the toasted bre dipped in the gravy.

Grouse and blackcock should be dressed in the same manner; the head being tru the wing. Snipes and woodcocks are not dr

To roast Goose.—Pick, draw, and singe the Cut off its head and neck. Take off the legs a the first joint. The portions of the legs and are left are skewered to the sides. Stuff wi sage and onion, and crumbs of bread, with salt. The skin of the neck must be tied s prevent the gravy from running out. Paper for a short time. A goose does not requir basting as fowl or turkey, for it is naturally will require from two hours to two hours a roasting. It ought to be thoroughly done, gravy sauce and apple sauce. The liver, giz neck, feet, and the pinions of the goose, for termed the *giblets*, and compose a good stew

To roast Ducks.—Pick, draw, and singe Take off the head. Dip the feet in boiling wa off the outer yellow skin. Truss them neat the feet flat upon the back. Stuff as in t goose, and serve with the same sauces. A du about an hour in roasting.



To roast Fo Pick, singe, and d the same as fow them by twisting round one of the turning both wi back. The legs on each side, in same manner as fowl, the feet bei as here represent with beef gravy sauce.

To roast Hare.—A hare will keep with on it, and paunched, for about three wee weather. It is then fit for roasting. Fir the feet, and commence drawing off the sk hind legs, proceeding along the body to the careful not to tear the ears in skinning the and wash well in several waters, and then w dry. Stuff with crumbs of bread, chopped bit of beef or veal suet chopped finely, a lit

lemon-peel and nutmeg, a piece of liver boiled chopped or grated, and pepper and salt; t moistened with an egg, a little milk, and a sp ketchup. The skin of the belly afterwards to Commence trussing, by placing the hind and flat against the sides. To make the hind leg the under sinews must be cut. Fix the hea the two shoulders, on the back, by running through it into the body. In roasting, suspe downwards. It may be basted first with m wards with butter, flouring it lightly. It wi from an hour and a half to two hours. Th dished back upwards, as represented above, a with a dish of rich beef gravy, and a dish of cur

ite flat. Dust with pepper. They should be more slowly than steaks or chops, being thicker, iring to be more thoroughly dressed. Rub oily with a little butter, to prevent the skin from . In no case should the skin be taken off before ling. On dishing, sprinkle with salt.
e sauces are used—parsley and butter, melted eef gravy, or mushroom sauce.

FRYING.

g is as expeditious a mode of cooking as broiling, less activity and care, and is more thrifty. The e of frying is a point of material consequence, be thus explained. It affords a ready means ng in a savoury manner many odd pieces of l or cold meat, thereby saving that which might e have been thrown away as useless. A skilful e, with the aid of a frying-pan and some mixvegetables, such as onions and potatoes, along light seasoning, will make a small portion of e a large family.
ng-pan should be of malleable, not of cast, iron. t also be thick in the bottom, and of an oval should always be kept clean, by being washed ing water, but not scoured. In all cases of small piece of dripping, butter, or lard, must into it and melted, to prevent the meat from . In frying all meats, except those which ciently fat in themselves, it is necessary to use d *of* grease or fat. The best fat for this purril, which is more economical, and less likely than butter. When lard is not employed, the titute for it is dripping.
Beef-Steaks.—Cut the steaks as for broiling. being put into the pan, shift and turn them y. Let them be done brown all over, and a hot dish when finished. Gravy may be pouring a little hot water into the pan after s are out, and the fat poured away, with per, salt, ketchup, and flour. The gravy so to be poured into the dish with the steaks. table immediately.
ns be required along with the dish, cut them lices, and fry them till they are soft. They fried after the steaks, and merely with part in which the beef has been fried.
Mutton Chops.—They require to be cut in the ner as for broiling, and may be dressed no the preceding directions for steaks. None ose which flows from the chops is to be used h them, and the whole must be poured away eparing the gravy.
Veal Cutlets.—Veal cutlets form a delicate dish, d be fried with butter. The best cutlets are fillet, because they are free from bone; the nd loin—that is, the back-ribs or loin—may but the bone must be cut away, which causes Cut them half an inch in thickness. They be dressed slowly and thoroughly, and should ght brown tings when finished.
r and more tasteful way *of* dressing cutlets, is them in a beat egg and then strew them with bread, and parsley chopped very fine, along er and salt, after which put them in the pan. requires more lard or dripping this way than d plain.
may be made for cutlets the same as for fried t add a little juice of a lemon, and skim the re pouring it over the cutlets.
and Chops.—Lamb chops may be either simply e same manner as mutton chops, or dressed and crumbs of bread (but with no parsley), ease of cutlets. Gravy made in the pan, as teaks.
Pork Chops.—Pork chops should be cut rather be thoroughly dressed. They may be either ed in the same manner as chops, or fried after ed in egg, and sprinkled with crumbs of bread, and onion finely chopped. No gravy, or

batter so formed, after which fry in lard or good fresh dripping, of which there must be a sufficiency in the pan almost to cover the tripe. Let it be done to a light brown. Garnish with fried parsley.

To fry Parsley.—Parsley is fried only for garnishing. It must be thoroughly dried, and fried in hot butter or dripping. After frying, lay it on a sieve before the fire for the fat to drain from it; after which, place it round the edge of the dish.

To fry Bacon, or Ham and Eggs.—The bacon should be cut very thinly in slices not more than a quarter of an inch in thickness. The best bacon is that which is alternately streaked with fat and lean. No butter or dripping is required in the pan in frying bacon, which does not need much dressing, and is soon prepared. When done, take the slices from the pan, and place them in a hot dish before the fire. Have the number of eggs required previously broken, each in a separate cup, and place them gently in the pan, so as to preserve them in a round flat shape. Let them remain in the pan till the white is set, and take them out carefully with a slice, and place them on the bacon. The tasteful appearance of this dish is spoiled, if the eggs be either broken or ragged, which is very apt to be the case if they are not previously put into cups.

To fry Collops.—The difference betwixt this dish and fried steaks, is, that the collops or pieces of meat are partially stewed, as well as fried. Cut the meat thinner than for broiling, and put the slices in a pan along with a large piece of butter and sliced onions. Cover it close, and when the meat is sufficiently dressed, add a little hot water and ketchup to the liquor already in the pan.

BOILING.

Boiling is the preparation of meat in water, and it is necessary that the vessel employed be large enough to allow the meat perfect freedom; if it be cramped, and have only a little water, it will be stewed, not boiled. In all cases of boiling, there must be a sufficiency of water to cover the meat. In boiling meat there is less waste than in roasting; and, in some cases, soup may be made of the liquor. It is a general di-

at the joint if necessary, so as to
hours of slow equal boiling will b
sized leg of mutton. Some per-
look white and tasteful, wrap it
boiling; but this spoils the liquor
safe to boil vegetables with a leg
apt to flavour the meat. Dish t
the liquor, placing the lower si
niently for carving. A good leg
yield sufficient gravy.

The sauce used is finely chop
butter. Turnips mashed or wh
vegetable to be eaten with this di

To boil a Leg of Lamb.—A le
boiled, is a delicate and excelle
about an hour and a half. When
it is wrapt in cloth, the same as n
garnish with the loin cut into ch
round it. The sauce used is l
parsley and butter.

To boil Veal.—Veal is seldom b
by that mode of dressing. The
knuckle, which requires much boi
the sinews. It is eaten with boil
sauce used is parsley and butte
boiled veal is the best of any for

To boil a Turkey.—Boiled turk
delicate and excellent dishes whi
table, and should be dressed w
possible. Clean the turkey from a
the hair with burning paper, l
blacken the skin. Clean it well i
wiping. Cut off the legs at the
out the sinews; then pull down t
legs inside. Cut off the head clos
the skin long, and draw out the c
of chopped suet, crumbs of bre
pepper, salt, and a little nutmeg,
and milk. Put this stuffing int
room for the stuffing to swell;
skin of the breast over the openi
across the back; by which means

...e manner as a turkey, except that no stuffing ...It may be boiled with or without a cloth. ...ls will require from half an hour to three ...of an hour; large fowls will require from an ...n hour and a half. Sauce, parsley and butter.

... Rabbits whole.—Wash them well in warm ... They may be either stuffed or not stuffed, ... to taste. When stuffing is required, make ...abs of bread, suet, parsley, and onions—all ...-and pepper and salt; moisten with milk and ...e this neatly into the belly. Truss in the ...ner as roast hare, and boil slowly for an hour. ...e to be made of boiled onions, milk, melted ...d flour, with pepper and salt, which pour over ...s when dished. This is called *rabbits smothered*

...wo rabbits are dished together, lay the head ...a contrary direction to that of the other.

... a Ham.—If the ham has been cured long, it ...ires soaking in cold water to soften it, from ... twenty-four hours before dressing. Put it in ...iling vessel, with plenty of cold water, and let ... slowly from two to four hours, according to ... Skim it frequently, to remove the grease ...constantly rising to the top. When done, skin ...rew bread raspings over the upper side; then ...before the fire to dry and brown. Garnish ...ns or cabbage.

... Leg of Pork.—Pork requires to be particu... boiled. Place it in the pot with the skin side ...t, with a plate below it, for pork is very apt ...to the bottom of the pot. Peas pudding is ... served separately with this dish.

... a Tongue.—If hard, soak the tongue in water ... before using. Boil it from two hours and a ...ree hours. Skin it before dishing. Garnish ...ns or cabbage.

... Tripe.—When tripe is purchased from the ...n a raw state, it requires to be boiled a very ..., to be thoroughly soft and tender. The length ...ld depend on the age of the animal from which ...en taken. Sometimes, for young tripe six or ...urs will be sufficient, while old tripe will per... ten or twelve. In all cases, boil or rather ...t very slowly, for quick boiling hardens it. It ...e cut into moderately sized pieces for helping ... When to be served plain, carry to table in a ..., in some of the water with which it has been ...ith boiled onions in it. A tasteful way of serv... take it from its liquor after boiling, and stew ...ut ten minutes in a saucepan with milk, which ... with a little arrowroot, or flour and butter, ...on with pepper and salt. This makes a deli... cheap dish.

... Cow-heel.—Cow-heel should be boiled for five ...urs, or till the bones will slip out. Serve with ...f chopped parsley and butter.

STEWS, HASHES, AND MADE DISHES.

...g is the preparing of meat by slow simmering ..., and by which all the liquor is to be used ...th the meat at table. This is a much more ...mode of cookery than boiling, because the sub... the meat is partly in the liquor, and is seasoned ...a high relish or flavour. Generally, much more ...made of meat by stewing, than by roasting, ... or frying, because nothing is lost in the pro... dressing. It also possesses the decided advan... being a way by which meat may be dressed for ... whose time of dining is uncertain. A stewed ...r instance, will keep warm and in good condi... an hour, but a broiled or fried steak cannot ...minute after dressing.

... a piece of Beef, or make Beef Rissoll.—Take a ... heel—the brisket or rump, or any other piece ...l become tender. Put a little butter in the ...of the stew-pan, and then putting in the meat, ... fry or brown it all over. Then take it out, ...two or three skewers in the bottom of the pan; after which replace the meat, which will be prevented from sticking to the pan by means of the skewers. Next, put in as much water as will half cover the meat. Stew it slowly, with the pan closely covered, till done, with a few onions, if required. Two hours are considered enough for a piece of six or eight pounds. When ready, take out the meat, and thicken the gravy with a little butter and flour. Cut down into handsome shapes a boiled carrot and turnip, and add them to the liquor; season with pepper, salt, and a little ketchup. Boil all together for a few minutes, and serve in a hash dish.

To stew a Shoulder of Mutton.—Take a shoulder of mutton, and cut out the blade bone without injuring the form of the meat. Make a stuffing of crumbs of bread, chopped suet and parsley, a little green or dried sweet herbs, chopped onion, and pepper and salt, moistened with egg and milk. Lay this stuffing in the place from which the bone was cut out; then roll it up, and skewer or bind it firmly with tape. Rub the bottom of a stew-pan with suet or butter, and brown the mutton. When sufficiently brown, lay two skewers in the bottom of the pan; add a little stock or boiling water, and let it stew for an hour and a half; the gravy drawn from itself will be sufficiently rich for sauce, seasoned with pepper and salt. Skim it before serving, to remove the fat.

To stew Steaks and Chops.—Cut the beef in slices rather thinner than for broiling or frying. Put them in a stew-pan, with water sufficient to make gravy. Add grated carrot, turnip cut in small squares, and pepper and salt. Stew for an hour, or till tender. Skim if necessary. When done, thicken the gravy with a little arrowroot or flour, and flavour with ketchup. Some persons add a little maccaroni or vermicelli, which requires from ten to twenty minutes' boiling along with the stew.

Mutton chops are stewed in the same manner, but require to be trimmed of the superfluous fat, and more carefully skimmed. This is called *harrico of mutton* when the chops have been previously browned. The same directions will serve for stewing slices or pieces of any other kind of meat.

To stew Veal.—The best parts of veal for stewing are the fillet, the breast, and the shoulder. The shoulder must be stuffed when the knuckle is cut out, which must be done neatly, without disfiguring the meat; the stuffing should consist of bread-crumbs, minced suet, chopped parsley, grated lemon-peel, white pepper and salt, moistened with egg and milk; fill the shoulder, and sew it up. Rub the bottom of a large stew-pan with butter, lay in the veal, and brown it on both sides. When sufficiently brown, put in a pint of cold water, and stew it slowly for two hours, or, if large, two hours and a half. Before it is to be dished, draw off the gravy, and if not thick enough, brown a little butter, and dust in a little flour; put it amongst the gravy, and season with Cayenne, salt, and the squeeze of a lemon (a glass of sherry will be an improvement); skim the sauce, and pour it over the meat before dishing.

To stew Kidneys.—Cut the kidneys into slices; wash them, and dry them with a clean cloth; dust them with flour, and fry them with butter until they are brown. Pour some hot water or beef gravy into the pan, a few minced onions, pepper and salt, according to taste; let them stew slowly for an hour, and add a spoonful or two of mushroom ketchup before dishing.

To stew Pigeons.—Pick and wash the pigeons well, trussing them as fowls for boiling. Put a piece of butter and some pepper inside; dust them with flour, and brown them in a covered stew-pan with a good piece of butter; put in a little flour; add some gravy or hot water. Season them highly, and let them stew slowly for twenty minutes or half an hour. Before dishing, add half a glass of port wine, if the flavour be approved.

To stew Rabbits.—Wash the rabbits well, cut them in pieces, and put them in to scald for a few minutes. Melt a piece of butter, in which fry or brown the rab-

given to the following excellent preparation of cold meat. Cut the meat in slices; pepper, salt, and flour them, and lay them in a dish. Take a few pickles of any kind, or a small quantity of pickled cabbage, and sprinkle them over the meat. Then take a tea-cup half full of water; add to it a small quantity of the vinegar belonging to the pickles, a small quantity of ketchup, if approved of, and any gravy that may be set by for use. Stir all together, and pour it over the meat. Set the meat before the fire with a tin behind it, or put it in a dispatch, or in the oven of the kitchen range, as may be most convenient, for about half an hour before dinner-time. This is a cheap and simple way of dressing cold meat, which is well deserving of attention.

To hash Cold Beef or Mutton.—Cold roast beef, or cold roast or boiled mutton, may be dressed as a hash in the following manner. Cut the meat from the bones into small pieces, and lay them aside. Then put the bones in a stew-pan, with a little water and sliced onion. After stewing for a short time, take out the bones and put in the meat. When the meat is perfectly hot, thicken with a little flour and butter, and season with pepper and salt, and a little ketchup. Dish the hash, and stick small triangular pieces of dry toasted bread round the inner edge of the dish.

To dress Cold Boiled Beef, or make Bubble and Squeak.—Cut the beef in slices of about the third of an inch in thickness. Fry the slices till lightly browned, and heated through. Then take them from the pan, and place them on a warm plate before the fire, to keep hot. Fry some cabbage which has been previously boiled and chopped; stir this about a short time in the pan, and season with pepper and salt. Spread the cabbage in a dish, and place the slices of meat upon it; or heap the cabbage in the dish, and place the meat around it.

To mince Cold Veal.—Cut the veal from the bones, and mince it in small square bits, and lay them aside. Then put the bones in a stew-pan with a little warm water, to make a gravy. After stewing for a short time, take out the bones and put in the bits of veal, with a small piece of lemon-peel, chopped very fine. When perfectly heated, thicken with a little flour and butter, and season with pepper and salt, and a little lemon-juice. Dish with small pieces of toasted bread, as in hashed mutton.

To dress a Lamb's Head and Pluck.—Lambs' heads are procured [illegible]. Take the head with the neck [illegible]

as a jelly. Take the half of
soak it in warm water, with
hours. Then boil it with
done, cut them in small
after which, strain the liqu
boiled, and let it stand till
be easily skimmed. Put
and boil for half an hour, a
salt according to taste. Pu
earthenware shapes, which
quite cold, it forms a jel
turned out on a dish for u
easily, dip the basin or shap
will immediately loosen it.
parsley.

SOUPS AN

Soups are the substance
boiling, and are of many d
divided into two classes, na
basis of brown soups is alw
white soups is generally ve
of soup, but more simple in
containing some kind of
thickening, as rice, barley,
scription should be made of
water. It is a general rule t
every pound of meat; also
make the scum rise, which
salt; and after skimming, t

To make Brown or Gravy
of the rump of beef, and br
the beef from the bones; ta
and lay it on the bottom o
marrow, use butter. Then
to brown. Turn the whol
side, and take care that it d
thoroughly browned, add a p
juice from the meat, also a l
of an hour after, fill in the q
may be requisite. Now ad
stance, two carrots, a turnip,
sliced; also a stalk of celer
some whole black and Jamai
slowly for from four to five
off, and let it stand a little t
fat, and put it through a h

sweet herbs, and some blank and Jamaica
hole. Add also the brains, after you have
n separately in a cloth, and pounded them.
these additions let the soup boil slowly for
e hours, after which strain it, and when cold,
e fat. Take a quarter of a pound of fresh
l melt it in a stew-pan; when melted, put in
ls of flour and let it brown, stirring it all the
a little of the soup, a sprig or two of sweet
a few heads of parsley. Boil this for a quarter
; strain it through a sieve; then put this, the
eat, and the soup, all together, and boil it
r. Add two tablespoonfuls of ketchup, the
lemon, Cayenne pepper, and salt, to taste. If
put in at the same time four glasses of sherry
hen dished in a tureen, put in two dozen of

ls for mock-turtle soup are made as follows.
r five eggs till they are quite hard. Take
lks, and beat them in a mortar, with salt and
epper. Make this into a paste with the white
two raw eggs. Roll the paste into balls the
all marbles. Roll them in a little flour, and
them in butter or brown them before the
careful to keep them whole and separate.
now ready for being put into the soup.

up.—This is an excellent soup, if well made,
of the cheapest dishes that can be put on the
it may be formed of cold meat or marrow-
what is cheaper still, merely water, or the
which any piece of mutton, lamb, or veal, has
d. We give the following two recipes for
:—

up with meat or bones.—Take a good marrow-
he bones of cold roast beef; a slice or shank
y be added, if the flavour be liked. Break
and put them in the pot with four quarts of
. According to the thickness and quantity
take two or three pounds of the best split
put them among the cold water and bones;
two carrots, two turnips, half a dozen small
stalk of celery cut in pieces, a bunch of thyme,
whole black and Jamaica pepper. Let all
or two hours, stirring frequently, as the soup
t to burn. When the peas are quite soft and
wn, take the soup off, and put it through a
another pot; rub it well through until the
ixed with the soup. Add salt melted amongst
ter, and boil the soup again for a few minutes.
be served, cut a slice of toasted bread into
are pieces, and put in the tureen with the soup.
up without meat or bones.—Put two pounds
f peas in five quarts of water. Boil for four
en add three or four large onions, two heads
a carrot and a turnip, all cut up; and season
to taste. Boil for two hours longer. If the
me too thick, add a little water. The peas
oiled the evening before being used, and the
ey boil, the smoother and more mellow the
be; but do not put in the vegetables until the
oup is to be used. By this plan the soup does
re straining.

Broth.—This is a broth of a mild nature,
ended chiefly for invalids. Take a scrag or
of a loin of mutton, and put it into a pot with
r; the proportion being a quart of water to a
meat, which will allow for loss in boiling.
d onion may be added when not considered
Let this boil slowly for three hours, and
ll the fat before serving. The meat is sup-
be useless.

ea.—Take a pound of lean beef, which cut in
d put into a saucepan with a quart of cold
Place it on a slow fire, and skim it carefully as
Let it simmer gently for about an hour, and
rving, strain it through a hair sieve. Season
le salt.

r method.—Take a pound of good lean beef,
cut it into very thin slices, which place in a

basin. Then pour a pint and a half of boiling water on the meat, moving it frequently with a fork or spoon, to cause the water to act upon all sides of the meat, and so extract its juices. Let it remain in the water about a quarter of an hour, after which pour the water into a saucepan, and boil it for about ten minutes. Skim, and season with salt. This is the most delicate way of making beef tea.

SCOTCH DISHES.

Sheep's Haggis.—There are different ways of making a haggis, as far as the exact composition of the materials is concerned. Some put minced tripe in it, others put no tripe. The following is the more common, and, we believe, the best manner of making it: Procure the large stomach bag of a sheep, also one of the smaller bags called the king's hood, together with the pluck, which is the lights, the liver, and the heart. The bags must be well washed first in cold water, then plunged in boiling water, and scraped. Great care must be taken of the large bag; let it lie and soak in cold water, with a little salt, all night. Wash also the pluck. You will now boil the small bag along with the pluck; in boiling, leave the windpipe attached, and let the end of it hang over the edge of the pot, so that impurities may pass freely out. Boil for an hour and a half, and take the whole from the pot. When cold, cut away the windpipe, and any bits of skin or gristle that seem improper. Grate the quarter of the liver (not using the remainder for the haggis), and mince the heart, lights, and small bag very small, along with half a pound of beef suet. Mix all this mince with two small tea-cupfuls of oatmeal, previously dried before the fire, black and Jamaica pepper, and salt; also add half a pint of the liquor in which the pluck was boiled, or beef gravy. Stir all together into a consistency. Then take the large bag, which has been thoroughly cleansed, and put the mince into it. Fill it only a little more than half full, in order to leave room for the meal and meat to expand. If crammed too full, it will burst in boiling. Sew up the bag with a needle and thread. The haggis is now complete. Put it in a pot with boiling water, and prick it occasionally with a large needle, as it swells, to allow the air to escape. If the bag appears thin, tie a cloth outside the skin. There should be a plate placed beneath it, to prevent its sticking to the bottom of the pot. Boil it for three hours. It is served on a dish without garnish, and requires no gravy, as it is sufficiently rich in itself. This is a genuine Scotch haggis.

Lamb's Haggis.—This is a much more delicate dish, and less frequently made than a sheep's haggis. Procure the large bag, pluck, and fry of a lamb. The fry is composed of the small bowels, sweetbreads, and kernels. Prepare the bag, as in a sheep's haggis. Clean thoroughly the small bowels and other parts; parboil them, and chop them finely along with a quarter of a pound of suet. Mix with dried oatmeal, salt, and pepper, and sew the mixture in the bag. Boil it, and attend to it in the same manner as a sheep's haggis.

Broth or "Kail."—Broth is made of beef or mutton, but mutton is preferable, and is generally employed. The best broth is made as follows:—Put into a pot three quarts of cold water, along with a cupful of pearl barley, and let it boil. As soon as it boils, put in two pounds of the best part of the neck or back ribs of mutton. Allow it to boil gently for an hour, skimming occasionally, and watching to prevent boiling over. Then add one carrot grated, two small turnips cut in squares, a few small onions shred; also two or three pieces of carrot and turnip uncut. Instead of part of these vegetables, according to taste put in the half of a small cabbage chopped in moderately sized pieces, or if cabbage cannot be procured, a similar quantity of greens. Leeks are also used instead of onions. Boil the whole for an hour longer, adding if necessary a small quantity of hot water to compensate the loss in boiling. The broth is now supposed to be done. Season with salt only, and serve in a tureen. The meat, which is not expected to be ov served in a separate dish, garnished with pieces of turnip and carrot. By this prepa the broth and meat are used, so that a sm of meat produces food for a large number.

Hotch-Potch.—This is a dish only to be perfection in summer, when green peas ar Put on two quarts of water, and when it b three pounds of the back ribs of mutton or l off the fat if there be too much. Put in wit two or three carrots cut into squares, and also three or four sweet young turnips cu cauliflower and a lettuce cut down, a few on shred, a little parsley, and about a pint of s peas. Boil this for an hour and a half, the the meat and cut it in chops, laying it ag another pint of young peas, seasoning with pe salt; and when these peas are done, put in t In a few minutes afterwards, serve up the s tureen.

Sheep's Head.—Procure as good a sheep's possible. The first thing done is to singe it w iron, so as to free it completely from every p wool. This process is always performed in by a blacksmith, or some other person who business of singeing heads. The horns shou been previously sawed off by the butcher. Wh and ready for the cook, soak the head for se in warm water, and then scrape it till it is p clean, and as nearly white as possible. The h now be split, and the brains removed. Take eyes, and scrape and clean out the nose; aft wash the head again, and let it lie in warm wa short time. It is usual to procure the trotte with the head, and to subject them to a simi ment, as regards singeing, cleaning, and washi head and trotters being now ready for the pot, p in with a sufficiency of water, and let them bo skin is soft and tender, which may be in three When ready, serve with the trotters round t and garnish with boiled carrot and turnip. Se sons serve with parsley and butter.

Minced Collops.—Take a pound of good ju and a proportionate quantity of suet. Mince t very fine, as if for sausages, taking away an gristle or skin. Melt a piece of butter in a fry and then put in the collops. Stir them well, little flour, a little hot water or gravy, and sea pepper and salt, and a little ketchup. Onion chopped and put in along with the meat, if n Ten minutes will dress a pound, which will dish for four or five persons. Serve in a hash

Potato Soup.—Take any bones of cold roast a marrow-bone, or, failing these, a piece of s which put into a pot with cold water, according quantity required. Let it boil a short time; t in a quantity of potatoes well peeled or scraped have been previously soaked in boiling water to any disagreeable flavour from them. Add als two onions cut in pieces, a little pepper and salt all boil for half an hour.

SAUCES AND FLAVOURS.

Sauces are liquid preparations to be used as flavour or relish to dishes, and are of various A number are formed of melted butter, with an of some other ingredients; others are in the gravies drawn from fresh juicy meat; and a th are composed partly of water, and some preserv diments, or spices. There is little merit in m good sauce when a person has good and proper rials to make it with. The chief merit consists nishing a fine flavour from inadequate materi for instance, giving a rich flavour of meat to of potatoes, or some other plain dish, when n has been employed. This can only be done by k the qualities of various vegetable products, a these, by means of cookery, may be made to p the juices of animal food. The vegetable pro

ich by far the most can be made by a skilful cook, onions, mushrooms, and carrots. Onions and shrooms, alone, furnish the most effectual substi- es for animal juices, and may be dressed so exqui- sly as hardly to be distinguished from the gravy of ef.

Onion Flavour.—Onion flavour is made by stewing. ke several large onions, and remove the thin outer m from them. Put them in a saucepan with a little t and flour, and a small piece of butter or dripping, prevent their burning. Cover them quite close, and by the fire to brown and stew gently. Two hours dress them, and at the end of this time they will quite soft, and, with the addition of a little water, will yield a rich gravy. This may be used to fry toes with, or to flavour any other dish.

Mushroom Sauce.—Pick out the stems, and skin the hrooms and the stems. Cut them in small pieces, wash them. Then put them in a saucepan, with er more water than will cover them. Let them gently for about half an hour, or till they are soft. will now have yielded a fine rich sauce. Stir in le flour and butter kneaded together, and season pepper and salt. This preparation may be eaten potatoes, the same as meat; it also forms an ex- nt sauce to many dishes.

Melted Butter.—This must be made of fresh butter. down the butter into small pieces, and put them a small saucepan with cold water, in the propor- of an ounce of butter to a tablespoonful of water. w in flour from a dredger with the one hand, while the other you turn the saucepan rapidly round, so cause the flour to mix without lumping. A small tity of flour is sufficient. You now for the first take the saucepan to the fire, and continue turning aking it till the butter is thoroughly melted. When ils, it is ready; it should then have the consistency ch cream. If it should oil in making, it may be ally recovered by putting a little cold water into d pouring it several times into and out of a basin. his sauce is the foundation of a number of other es, various additions being made to it for the sake riety.

Onion Sauce.—Skin the onions, and boil them in ty of water. When they are soft, take them from water, and chop them very fine. Melt butter as e, and stir them in, seasoning with a little pepper salt.

Egg Sauce.—Boil three or four eggs till they are hard. Peel and chop them down, and then stir in into melted butter. Season with a little pepper salt.

Cradle Sauce for plum-pudding.—Melt butter, as e directed, and stir into it a glass of sherry, half a of brandy or rum, a little sugar, grated lemon- , and nutmeg. Do not let it boil after the spirits added.

Lobster and Crab Sauce.—Melt the butter, as above ected. Pick out the meat of a boiled lobster or b; chop it down very fine, and put it amongst the er. Season with Cayenne pepper, and salt. If the ter be procured raw, with berries or spawn on the ide, these should be taken off previous to boiling, being mashed in a little cold water, may be added he sauce after the lobster is put in. By boiling a e, the whole will become a bright red. This forms improvement on common lobster sauce.

Bread Sauce.—Grate down crumbs of bread. Put it saucepan on the fire, with as much sweet milk as allow it to be thick. Add a piece of sliced onion, stir it till the bread is soaked and the sauce is quite oth. Season with pepper and salt.

Mint Sauce.—Take the leaves of fresh green mint. sh them, and after drying them, chop them very . Mix them with vinegar, and add a little sugar.

Beef Gravy.—A pound and a half of beef will make int of good gravy. Cut the beef in slices, or score very deeply. Place it in a saucepan, with a bit of ter to prevent it from sticking, and a sliced onion. Brown the meat gently, being careful not to let it burn. Cover it closely, and let it stand beside the fire for about half an hour, to allow the gravy to run from the meat. Then put in about a pint of hot water, and let it boil slowly for an hour and a half, with some whole pepper. Some persons put in to boil along with it, a piece of bread toasted hard and brown, which thickens the gravy a little and adds to its richness. Season with salt, and strain it through a hair sieve.

FISH.

Fish are dressed in a variety of ways, according to the taste of individuals. They are boiled, broiled, baked, stewed, and fried; but the most common modes of preparation are boiling and frying—boiling when required to be done in a plain way, and frying when a high relish or flavour is to be given to them. In all modes of preparing fish, much care is required to prevent them from being broken or disfigured.

To boil Salmon.—Clean out, scale, and rinse the fish in water. Then put it in a good roomy fish-kettle, with plenty of cold water, and a handful of salt. The usual time allowed for boiling salmon is twelve minutes to each pound, but this must in a great measure depend on the thickness of the fish. The way to ascertain when it is ready, is to raise one end from the water, and try if a knife will pass easily betwixt the fish and the bone. If it pass easily, it is dressed sufficiently. When done, lift it immediately from the water, and place the fish drainer across the kettle, to allow the water to drip from the fish. Serve on a dish with a fish plate and white napkin under it, the napkin being next it. Garnish with green parsley. Sauce—plain melted butter, parsley sauce, or lobster sauce in a tureen.

To broil Salmon, or Salmon Steaks.—Cut slices from the thick part of the fish, and having cleaned and scaled them, dry them, and dust them with flour. Broil them on a gridiron over a clear fire. When ready, rub them over with butter, and serve hot, with any of the sauces used for boiled salmon. Slices of hung or *kippered* salmon are broiled in the same manner.

To fry Trouts, or similar Fish.—Trouts of a moderate size are dressed whole, and frying is the best mode of preparation. Take the trouts, and clean out and scale them. Dust them with flour, and put them in a frying-pan with hot dripping or lard. Turn them, so as to brown them on both sides. Lift them out and serve them on a dish; they will be improved by laying a napkin under them to absorb the grease.

In the country parts of Scotland, trouts are rubbed with oatmeal instead of flour, and some reckon that this improves the flavour.

To boil Turbot.—Select a thick fish of a white creamy colour. After cleaning, but not cutting any part except in gutting it, lay it in salt and water, with the addition of a little vinegar, and let it soak a short time before boiling, Put it with the white side or belly upwards in a fish-kettle on the fire, with plenty of cold water, a handful of salt, and a cupful of vinegar. Let it heat slowly, and boil for half an hour after it has come to the boil. When done, serve with belly upwards, and garnish with any small fish fried, or with parsley and scraped horse-radish. Sauce—lobster, oyster, or plain butter.

To bake Turbot.—Cut a small turbot into slices, which clean and free from bones. Dip the slices in beat egg, and roll them in a mixture of crumbs of bread, minced parsley, pepper and salt. Place them in a dish well buttered all round, and bake them in an oven not very hot, or in a bachelor's or Dutch oven before the fire. They must be basted frequently with butter. When done, lay the pieces in a dish, and pour round them lobster or oyster sauce, highly seasoned with Cayenne pepper, salt, and ketchup. Instead of being baked, slices of turbot may be fried after being prepared as above, and served with plain butter sauce.

To boil Cod.—Wash and clean it, and boil as directed for turbot. Serve it on a napkin, garnished with parsley and scraped horse-radish. Sauce—oyster sauce.

To dress a Middle Cut of Cod.—Clean the piece of cod, and make a stuffing of bread crumbs, parsley and onions chopped small, pepper and salt, a bit of butter, moistened with egg. Put this stuffing into the open part of the fish, and fix it in with skewers. Then rub the fish over with beat egg, and strew crumbs of bread, pepper and salt, over it. Stick also some bits of butter on it. Set it in a bachelor's or Dutch oven before the fire to bake. Serve with melted butter or oyster sauce.

To boil Haddocks.—This is the simplest of all operations. Select haddocks of a middle size. Clean them well, and wash them, and boil with a little salt in the water. Twenty minutes or half an hour's boiling will be sufficient. Serve with oyster sauce.

To dress Haddocks.—This is a most delicious dish when well prepared. Take pretty large haddocks, which clean and wash well. They will be firmer and better if they lie for a night in salt. When to be dressed, wash them and dry them. Cut off the head, tail, and fins; then skin them, being careful not to tear the flesh. Cut the flesh neatly from the bone, and divide each side into two pieces. Dust them with flour, dip them into beat egg, and strew bread crumbs over them. Fry them in a frying-pan, with a sufficiency of hot dripping or lard to cover them. Be careful that the dripping is not hot enough to scorch the fish. The way to ascertain the proper degree of heat of the fat, is to dip a thin slice of bread into it, and when it makes the bread of a light brown tinge, put in the fish. If the fat be too hot, it will make the bread of a deep brown. Turn the pieces carefully, so as to brown both sides, and when done, lay them before the fire on a drainer for a few minutes. Serve in a dish, garnished with parsley. Sauce—oyster sauce, or plain melted butter.

The fat in which haddocks are fried will answer the same purpose again, if put through a hair sieve, and poured in a jar, and kept in a cool place.

To fry Skate, Soles, Flounders, Whitings, and Eels, and any other white fish.—Skate and soles are skinned and dressed in the same manner as haddocks, but soles are fried whole, not cut in pieces. Flounders are likewise fried in the same manner, whole, but do not m

of flavour. They should also dressed, and not permitted to lie after they are ready for dishing. and greens are the better for be carbonate of soda in the wate their green appearance. The material resembling flour in ap obtained from any druggist. C require great care in boiling, for and their appearance is spoiled. vegetables depends so much o and size, that no directions can The best way to ascertain whe pass a fork through the stem.

To boil Green Peas.—Peas sh just before they are to be use them into boiling water, just with a little salt; and when the put a little sugar in the water. twenty minutes to boil. Wh through a cullinder, and put the with a few bits of butter; sti butter is mixed with them.

To boil Carrots and Parsnips.- scraped, and to boil till they ar time for them boiling depends Small carrots are served whole, be cut in four pieces lengthwise. be scraped and prepared in the

To boil Turnips.—Old turnip much deeper than young ones. small, peel off the skins, but d after boiling, serve them whol butter in the dish. Large tur before being put in the pot, and in these pieces, or mashed with and salt.

To boil French Beans and Sca the tops and tails, and strip the of the pods. Then cut the pod across, or split them from one then cut them across. Lay the

t the edges of the dish, and place these
y round on the edges, as a foundation for the
on, after putting in the meat, lay the cover
, pressing down the edges closely to keep all
asy paste remain, cut or stamp it in orna-
h as leaves, and place these as a decoration
ir.

g pies from the oven, and while quite hot,
may be glazed with white of egg and water
ar, or sugar and water, laid on with a brush.

k Pie.—Take some slices of tender beef
h fat; those from the rump are the best.
n with pepper and salt, and roll each slice
all bundle, or lay them flat in the dish. Put
gravy or cold water, and a little flour for
. Cover as above directed, and bake in an
hour an hour.

.—Take chops from the back ribs or loin,
t the bones. Lay the chops flat in the dish,
over each layer a mixture of minced parsley,
er, and salt. Add a little gravy, which may
om the bones. Cover as above directed, and
ther more than an hour, for veal requires to
ked.

Pie.—Pick and clean the birds well. Cut off
and truss them by turning the wings on the
ing off the feet, and drawing the skin of the
the legs. Put a bit of butter, and a little
f salt, inside each bird. Place a single layer
veal in the bottom of the dish. Lay the birds
t, with breasts upwards, and with the gizzards
round them. Some add a few whole hard-
s. Add a little gravy or water. Cover as
ted, and bake for an hour.

r Tarts.—After tarts are baked, they are
ized on the top, to improve their appearance.
is done in the following manner:—Take the
n egg, and beat it till it is a froth. Spread
is with a brush or feather on the top or cover
, and then dredge white sifted sugar upon it.
tart to the oven for about ten minutes.

ie.—Pare and take out the cores of the apples,
ch apple into four or eight pieces, according
e. Lay them neatly in a baking dish, season-
rown sugar, and any spice, such as pounded
cinnamon, or grated lemon-peel. A little
rmalade gives a fine flavour to the pie. Add
ter, and cover with puff paste, as above
flake for an hour.

ry Pie.—Pick the heads and stems from
ard gooseberries, and rub them with a towel
en. Fill the dish with them, and add a con-
quantity of brown sugar, with a very little
ver as above directed, and bake for upwards
r. Some persons stew the gooseberries in
re putting them in the dish, in which case
re less baking.

Pie.—Take stalks of fresh-pulled rhubarb,
l the leaf, and strip off the skins. Cut the
pieces of an inch long. Fill the dish, add-
of sugar. Cover as above directed, and bake
n hour. Some persons stew the rhubarb
ing; the advantage of this is, that more can
the dish, for it shrinks considerably in dress-

ry, Raspberry, and other Tarts.—Cranberries,
e, and other small fruits, may be made into
same manner as gooseberries. All require
d and wiped, and to have sufficient sugar to
em. The dish should also be well filled, and
er in the middle than the edges, for the fruits
onsiderably in bulk in baking.

ie.—Mince pie is a composition of meat, fruit,
ices and seasonings, and also spirits. The
is a properly proportioned mixture:—Take
a pound of beef suet, and a pound of roast
essed fresh bullock's tongue; also a pound
ared and cored, minced separately from the
eat; a pound of currants washed well picked,

with narrow bars of paste crossed all over, or stamped leaves. Bake for half an hour.

PUDDINGS AND DUMPLINGS.

Care should be taken in making puddings to have the suet and the eggs which are put into them perfectly fresh. If there be any doubt of the freshness of the eggs, break each individually in a tea-cup, for one bad egg will spoil all the eggs in the dish. The cloths used for puddings should be of tolerably fine linen. Let them be carefully washed after using, and laid aside in a dry state, ready for the next occasion. Before putting the pudding into the cloth, dip the cloth in boiling water, and after the water has run from it, spread it over a basin, and dredge it with flour. Every pudding should be boiled in plenty of water, so as to allow it room to move freely; and it must be kept constantly boiling. It is a general saying among cooks, that a pudding *cannot be too well boiled*, and it is certain that there is much more danger of boiling it too short than too long a time. When you take the pudding from the pot, plunge it for a few seconds into a jar of cold water. This will chill the outside, and allow the cloth to be taken away without injuring the surface. The best way to dish a pudding, is to place it with the cloth in a basin, then open the cloth, and lay the face of the dish upon the pudding; turn the whole upside down, lift off the basin, and remove the cloth.

Plum Pudding.—A plum pudding may be made either rich or plain, according to the quantity of fruit and spices put into it. The following is the direction for making what would be considered in England a *good Christmas pudding*:—Take a pound of good raisins and stone them; a pound of currants, which wash, pick, and dry; a pound of rich beef suet minced, and a pound of stale bread crumbs, and half a pound of flour. Mix the bread, flour, and suet in a pan. Beat six eggs in a basin, and add to them about half a pint of sweet milk. Pour this egg and milk into the pan with the suet and flour, and beat it well with a flat wooden spoon for some time. Then stir in the currants and raisins, mixing well as you proceed; mix in also a quarter of a pound

bread to swell. Then beat
fine pulp, stirring in a sm
three or four eggs, a teaspo
a little grated lemon-peel, a
Stir this among the pudding
may be added; also a few c
pudding may be either boile
put it in a well-buttered pud
buttered paper over it, and
for an hour. If to be baked,
dish, and bake in an oven f

Rice Pudding.—Take a
pick it, and wash it well in c
for about five minutes. Dr
it on again with as much mi
boil till the rice is quite soft
prevent it from burning.
basin, and stir in a piece
minced very fine. When
beaten, with a little ground
and lemon, and sweeten wit
well together. It may be
directed for bread pudding
may be enriched by using m
by adding currants, spirits
lemon peel.

Custard Pudding.—Take
well with two tablespoonful
milk. Season this with suga
lemon-peel, and pour on a p
all the time. It may be ei
using more eggs, the flour n

Bread and Butter Puddi
bread rather thin; butter
layer of them in a pudding
currants above; then anoth
on till the dish is full. Be
ground cinnamon and nutm
milk to this, till there is ful
Then pour it over the bread
a time to soak. It will now
or boiling, as directed for br

um, and is ready for being poured into custard
When the glasses are filled, grate a little nut-
tmeg.

foot Jelly.—Take two calf's feet well cleaned;
m in several pieces, and put them in a sauce-
three quarts of cold water. Boil it slowly
reduced to about a quart and a half. Strain it,
stand till cold. Take off the fat carefully when
ut the jelly into a saucepan, keeping back the
; put in along with it the juice and the yellow
three lemons, two stalks of cinnamon, half a
sherry wine, the whites of eight eggs well
ith the shells broken, and white sugar accord-
te. Mix this all together, and put it on to boil
y minutes. Take it off, and let it settle with
er it for a few minutes. Then pour it through
jelly-bag made of thick flannel. It will take
s to run; therefore hang the bag near the fire,
and let the liquid run slowly from it into a
not perfectly clear, run it through the bag
nt if as clear as is required, it is now ready,
be poured into the shapes.

calf's-foot jelly may be made with ale instead
and vinegar instead of lemons.

nge.—Blamange, or Blanc-Mange—so called
white appearance—is a jelly made of isinglass
. Take a quart of sweet milk, or cream, and
two ounces of the best isinglass. Put it in a
, with the rind of a lemon, a blade of mace, and
gar to taste. Let it boil a quarter of an hour,
skins off six bitter almonds and twenty-four
es, and pound them to a paste with a little water.
with the boiling milk, and strain it through a
ieve. Let it settle for a short time, and then
nto the shape, keeping back the sediment. Turn
cold, as already directed.

rrot Blamange.—This is a jelly closely re-
the above, and is made with much less
Take a quart of sweet milk, and put it all in a
, excepting about half a pint. Sweeten it with
gar. Mix about three tablespoonfuls of arrow-
the half pint of milk, taking care to bray it
down. When the milk on the fire boils, pour
rrowroot, stirring quickly to prevent lumping
ing. It will become thick immediately. Let
two or three minutes. Wet the shape with
k, and pour the arrowroot into it. Let it
l cold, and turn out as already directed. Some
flavour the milk in the pan with essence of

Blamange.—There is a moss of a peculiar kind,
the sea-shores of Iceland, Ireland, and other
which is of a glutinous quality, like isinglass,
ch, when boiled in milk, forms a fine smooth
lly. The discovery of the properties of this
recent, and is yet not very generally known.
ll, therefore, be particular in our directions.
s is called Iceland or Irish moss; it is sold by
s, and when bought resembles dried sea-weed
owish colour. Take one ounce (which will pro-
st twopence), and pick from it all gritty or
rticles. Soak it in cold water for about twelve
Take it from the water, place it in a cullender,
n it. Being drained, place it in a saucepan or
with a pint and a half of sweet milk. Let it
half an hour, and keep stirring it all the time,
nt it from burning. During the boiling, sweeten
gar, and flavour it with cinnamon, or any other
a please. At the end of the half-hour's boiling,
s will be almost entirely dissolved, leaving
but a few thready fibres. You now strain it
a sieve, into a shape or mould. When cold, it
t out easily, and have all the appearance of a
mange. This forms one of the cheapest bla-
that can be served to table; it is also agreeable
ulate, and very nutritious. In cases of a hurry
g, six hours' soaking of the moss will do, but
es a waste.

berry Fool.—This is the simplest way of pre-

Set the pan on the fire again, and boil for three minutes or more, if the egg be quite fresh, or two minutes and a half, if the egg has been kept any time.

To Poach Eggs.- Take a shallow saucepan or frying-pan, and fill it about half full of water. Let the water be perfectly clean, not a particle of dust or dirt upon it. Put some salt into the water. Break each egg into a separate tea-cup, and slip it gently from the cup into the water. There is a knack in doing this, without causing the egg to spread or become ragged. A good way consists in allowing a little water to enter the cup and get below the egg, which sets the egg to a certain extent, before it is allowed to lie freely in the water. If the water be about boiling point, one minute is sufficient to dress the egg; but the eye is the best guide: the yolk must retain its liquid state, lying in the centre of the white. Have buttered toasted bread prepared on a dish, and cut in pieces rather larger than the egg; then take up the eggs carefully with a small slice, pare off any ragged parts from the edges, and lay them on the bread. They may be laid on slices of fried bacon, when preferred.

Buttered Eggs.—Put a piece of butter in a saucepan, and melt it, adding a little milk. Break the eggs into a basin, and pour them into the saucepan. Season with salt and pepper, and continue stirring the eggs till they are sufficiently dressed. Serve on pieces of toasted bread.

Omelettes.—Omelettes are composed of eggs and any thing that the fancy may direct to flavour and enrich them. For a common omelette, take six eggs, and beat them well with a fork in a basin; add a little salt. Next, take a little finely chopped parsley, finely chopped eschalot or onion, and two ounces of butter cut into small pieces, and mix all this with the egg. Set a frying-pan on the fire with a piece of butter in it; as soon as the butter is melted, pour in the omelette, and continue to stir it till it assume the appearance of a firm cake. When dressed on one side, turn it carefully, and dress it on the other. It will be dressed sufficiently when it is lightly browned. Serve it on a dish. The flavour may be varied, by leaving out the parsley and onion, and putting in finely chopped tongue or ham, oysters,

put on about two tablespoonfuls
pint of water; let it boil for at le
boiled, strain it through a hair s
meal, such as is sold in Englan
spoonful and a half, and mix wi
pint of cold water, braying it as
half an hour. It is now done,
ing. If the oatmeal be coarse,
land, take a tea-cupful and put
well with a small quantity of w
off, then take another water fr
about a quart should be taken,
the meal being rejected. Put
saucepan, and boil for twenty min
time. It is now ready, and, lik
may be seasoned according to ta

Lemonade.—Take a quart of
to it five ounces of lump sugar
lemon rubbed off with a bit of
three lemons. Stir all together
cool. Two ounces of cream of
stead of the lemons, boiling wate

To boil Rice for Curry.—It
boiled rice along with dishes whi
or stewed with curry. When ri
purpose, it should not be soft or
puddings; each grain should reta
form, though swelled to nearly
picking and washing the rice, pu
and let it boil smartly for about
before taking it out, put in a table
the rice in a cullinder; then sha
doubled cloth, and lay it before th
with a fold of cloth over it. By
will be absorbed from it, and it
ing. Pour it lightly into the dis

To make a Stuffing.—Roast ve
some other things, require a stu
have been alluded to in various
ing pages, and may here be expr
quarter of a pound of the crumb
a quarter of a pound of chopped

RS'S

THE PEOPLE.

BERS, EDITORS OF CHAMBERS'S
IONAL COURSE, &c.

Series. Price 1½d.

SAYINGS.

not thyself of to-morrow; for thou knowest not
a day may bring forth.
ich slothfulness the building decayeth; and
ugh idleness of the hands, the house dropgeth
ugh.
de cometh contention.

y bread upon the waters, for thou shalt find it
many days.

a fool, when he holdeth his peace, is counted
; and he that shutteth his lips is esteemed a man
derstanding.

al are the wounds of a friend; but the kisses of
nemy are deceitful.
r is deceitful, and beauty is vain; but a woman
feareth the Lord, she shall be praised.
God, and keep his commandments: for this is
whole duty of man.
en to search their own glory* is not glory.

om the presence of a foolish man, when thou
ceivest not in him the lips of knowledge.
the ant, thou sluggard; consider her ways and be

ith made man upright, but they have sought out
y inventions.

cometh poor that dealeth with a slack hand; but
hand of the diligent maketh rich.
at observeth the wind shall not sow, and he that
rdeth the clouds shall not reap.
at passeth by, and meddleth with strife belong-
not to him, is like one that taketh a dog by the

at is slow to anger is better than the mighty,
he that ruleth his spirit than he that taketh a

at loveth pleasure shall be a poor man: he that
th wine and oil shall not be rich.
at is greedy of gain troubleth his own house;
he that hateth gifts shall live.
t is of a merry heart hath a continual feast.
at is first in his own cause seemeth just; but
neighbour cometh and searcheth him.
at hath pity upon the poor lendeth unto the
d; and that which he hath given will he pay him
n.
at hideth hatred with lying lips, and he that
tteth a slander, is a fool.
at spareth the rod hateth his son; but he that
th him chasteneth betimes.
at gathereth in summer is a wise son: but he

* To talk of their own failings.

that sleepeth in harvest is a son that causeth shame.
He that walketh uprightly walketh surely; but he that perverteth his ways shall be known.
He that is surety for a stranger, shall smart for it; and he that hateth suretyship is sure.
He that keepeth [silent] his mouth, keepeth his life; but he that openeth wide his lips shall have destruction.
He that troubleth his own house shall inherit the wind; and the fool shall be servant of the wise of heart.
Heaviness in the heart of a man maketh it stoop; but a good word maketh it glad.
Hell and destruction are never full; so the eyes of man are never satisfied.
His own iniquities shall take the wicked himself, and he shall be holden with the cords of his own sins.
Hope deferred maketh the heart sick.

If sinners entice thee, consent thou not.
If the iron be blunt, and he do not whet the edge, then must he put to more strength; but wisdom is profitable to direct.*
If thine enemy be hungry, give him bread to eat; and if he be thirsty, give him water to drink: for thou shalt heap coals of fire upon his head, and the Lord shall reward thee.
If thou faint in the day of adversity, thy strength is small.
If ye cast pearls before swine, they will turn again and rend ye.
In all labour there is profit; but the talk of the lips tendeth only to penury.
Iron sharpeneth iron; so a man sharpeneth the countenance of his friend.
It is nought, it is nought, saith the buyer; but when he is gone his way, then he boasteth.
It is better to dwell in a corner of the house-top, than with a brawling woman in a wide house.

Let another man praise thee, and not thine own mouth; a stranger, and not thine own lips.
Love not sleep, lest thou come to poverty: open thine eyes, and thou shalt be satisfied with bread.

Much food is in the tillage of the poor: but there is that is destroyed for want of judgment.

Of making many books there is no end; and much study is a weariness of the flesh.

Pride goeth before destruction, and an haughty spirit before a fall.

Remove not the old landmark; and enter not into the fields of the fatherless.
Reprove not a scorner lest he hate thee; rebuke a wise man and he will love thee.
Righteousness exalteth a nation; but sin is a reproach to any people.

Say not unto thy neighbour, Go, and come again, and to-morrow I will give, when thou hast it by thee.
Seest thou a man diligent in his business: he shall stand before kings; he shall not stand before mean men.†
Seest thou a man that is hasty in his words: there is more hope of a fool than of him.
Strive not with a man without cause, if he have done thee no harm.

The blessing of the Lord, it maketh rich, and he addeth no sorrow with it.

The curse causeless shall not come.
The drunkard and the glutton shall come t
and drowsiness shall clothe a man with r
The hand of the diligent shall bear rul
slothful shall be under tribute.
The labour of the righteous tendeth to lif
of the wicked to sin.
The memory of the just is blessed; but th
the wicked shall rot.
The race is not to the swift, nor the battle to
The rich man is wise in his own conceit; b
that hath understanding searcheth him o
The rich man's wealth is his strong city; t
tion of the poor is their poverty.
The rich ruleth over the poor; and the b
servant to the lender.
The simple believeth every word; but th
man looketh well to his going.
The sleep of a labouring man is sweet, w
eat little or much; but the abundance o
will not suffer him to sleep.
The sluggard will not plough by reason of
therefore shall he beg in harvest, and ha
The slothful man saith, There is a lion
shall be slain in the streets.
The poor is hated even of his neighbour: b
hath many friends.
The profit of the earth is for all: the king
served by the field.
The upright shall dwell in the land, and t
shall remain in it. But the wicked shall
from the earth, and the transgressors shal
out of it.
The wicked flee when no man pursueth;
righteous are bold as a lion.
The wise shall inherit glory; but shame sh
promotion of fools.
There is that maketh himself rich, yet ha
there is that maketh himself poor, yet
riches.
There is that scattereth, and yet increa
there is that withholdeth more than is m
tendeth to poverty.
To all the living there is hope: a living do
than a dead lion.
Train up a child in the way he should go,
he is old he will not depart from it.
Treasures of wickedness profit nothing;
ousness delivereth from death.

Wealth maketh many friends; but the po
rated from his neighbour.
Whatsoever thy hand findeth to do, do it
might; for there is no work, nor device,
ledge, nor wisdom in the grave, whither t
When goods increase, they are increase
them; and what good is there to the own
saving the beholding of them with their e
Where no counsel is, the people fall; but
titude of counsellors there is safety.
Where no wood is, then the fire goeth out
there is no tale-bearer, the strife ceaseth.
When pride cometh, then cometh shame
the lowly is wisdom.
Who can find a virtuous woman? for her
above rubies.
Whoso findeth a wife findeth a good thin
taineth favour of the Lord.
Wine is a mocker, strong drink is raging
soever is deceived thereby is not wise.
Withdraw thy foot from thy neighbour's
he be weary of thee, and so hate thee.
Withhold not good from them to whom it i
it is in the power of thine hand to do it.

Yet a little sleep, a little slumber, a little fo
hands to sleep: so shall thy poverty c
that travelleth, and thy want as an armed

* Knowledge is power.—*Bacon.*

† Anciently, in the east, it was an honour to be permitted to *stand* in the presence of kings, as it is to *sit* before them in our own country.

* Conscience makes cowards of us all.—Sha

PROVERBS AND OLD SAYINGS.

ENGLISH PROVERBS.

:man quarrels with his tools.
ıe hand is worth two in the bush.
art makes a blooming visage.
ols moderate passions, and inflames violent

hich one chooses is not felt.
ook at a king.
h are ill tenants.
ıe old block.
science fears no accusation.
l mind is a continual feast.
door hangs long on the hinges.
the feast.
man will catch at a straw.
attereth no man.
n makes a lean will.
essed is half redressed.
ıis money are soon parted.
make money; it requires a wise man to

give a wise man counsel.
; is soon shot.
, the doctor.
r sit a while, after supper walk a mile.
mustard.
need is a friend indeed.
ı never lacks friends.
ı without a living is like a pudding without

r-up is a good layer-out.
.im is never out of season.
e keeps its lustre in the dark.
ant makes a good master.
l is as soon said as an ill one.
not graze after him.
ry is a bed full of troubles.
on horseback, but go away on foot.
ıscience needs no accuser.
e dog that bit him.
f good life is better than a bushel of learn-

ıan's an angry man.
our is no inheritance.
ı life is not a life of liberty.
legs, but scandal has wings.
ed mother makes a heavy-heeled daughter.
ıe is a heavy curse.
r doth often harbour a great soul.
will sink a great ship.
is soon hot.
friends that speak us fair.
hunters that blow the horn.
thieves that dogs bark at.
d not in one shoe.
sixes and sevens [confusion and ruin].
ıat comes to the net.
in that is got into the purse.
ld that glitters.
on the willing horse.
sty is in the parting.
in the fire.
e soon prepared in a well-ordered house.
d no play, makes Jack a dull boy.
very nigh, save many a lie.
the saddle on the right horse.
varned is forearmed.
buy gold too dear.
cause his own dog to bite him.
hold his tongue in an ill time.
lose his goods for want of demanding them.
ask his wife leave to thrive.
r surfeits of too much honesty.
out reason is a beast in season.
good as a will.
ı egg, and a nut, you may eat after a slut.
ırse fills the face with wrinkles.

An evil lesson is soon learned.
Anger dieth quickly with a good man.
An honest man's word is as good as his bond.
An hour in the morning is worth two in the afternoon.
A nice wife and a backdoor often make a rich man poor.
An idle brain is the devil's workshop.
An oak is not felled with one blow.
An obedient wife commands her husband.
A nod from a lord is a breakfast for a fool.
An old knave is no babe.
An old sack asketh much patching.
An ounce of mother-wit is worth a pound of clergy.
Antiquity is not always a mark of verity.
An unlawful oath is better broke than kept.
Any thing for a quiet life.
A penny saved is a penny earned.
A pin a-day is a groat a-year.
A pitcher goes often to the well, but is broken at last.
A quiet conscience sleeps in thunder.
A quiet tongue shows a wise head.
A rolling stone gathers no moss.
A rotten apple injures its companions.
A rotten sheep infects the whole flock.
A single fact is worth a ship-load of argument.
A small pack becomes a small pedlar.
A small spark makes a great fire.
A smart reproof is better than smooth deceit.
A spur in the head is worth two in the heel.
As the bell is, so is the clapper.
As the crow is, the egg will be.
As the fool thinks, the bell clinks.
As the old cock crows, the young cock learns.
A stitch in time saves nine.
As welcome as flowers in May.
As you make your bed, so must you lie on it.
As you sow, so you shall reap.
A tree is known by its fruit.
A wager is a fool's argument.
A wilful man will have his way.
A willing mind makes a light foot.
A word before is worth two behind.
Aye be as merry as you can.

Bachelors' wives and maids' children are always well taught.
Beauty is a blossom.
Beauty is no inheritance.
Before thou marry, be sure of a house wherein to tarry.
Beggars have no right to be choosers.
Be it for better, or be it for worse, be ruled by him that beareth the purse.
Be not too hasty to outbid another.
Be slow to promise, and quick to perform.
Better do it than wish it done.
Better go about than fall into the ditch.
Better known than trusted.
Better late than never.
Better ride on an ass that carries me, than a horse that throws me.
Better to be alone than in bad company.
Better to be beaten than to be in bad company.
Better to bend than to break.
Better to go to bed supperless than to rise in debt.
Between two stools we come to the ground.
Birds of a feather flock together.
Birth is much, but breeding is more.
Borrowed garments never fit well.
Brag is a good dog, but Holdfast is better.
Bread at pleasure, drink by measure.
Brevity is the soul of wit.
Building and marrying of children are great wasters.
Burning the candle at both ends.
Business is the salt of life.
Buy at a market, but sell at home.
By others' faults wise men correct their own.

"Can do" is easily carried.

Care killed a cat.
Carrying coals to Newcastle.
Catch not at the shadow, and lose the substance.
Catch the bear before you sell his skin.
Change of fortune is the lot of life.
Charity begins at home, but does not end there.
Cheating play never thrives.
Children and chickens must be always picking.
Children are uncertain comforts.
Children suck the mother when they are young, and the father when they are old.
Climb not too high, lest the fall be the greater.
Confession of a fault makes half amends for it.
Confine your tongue, lest it confine you.
Conscience is never dilatory in her warnings.
Conscience is the chamber of justice.
Constant occupation prevents temptation.
Content is the true philosophers' stone.
Contentment to the mind is as light to the eye.
Conviviality should ever be free from intemperance.
Courtesy on one side never lasts long.
Covet not that which belongs to others.
Craft bringeth nothing home.
Custom is a second nature.
Cut and come again.
Cut your coat according to your cloth.

Daub yourself with honey, and you will have plenty of flies.
Death is deaf, and hears no denial.
Death keeps no calendar.
Debt is the worst kind of poverty.
Deeds are fruits, words are but leaves.
Deep rivers move with silent majesty, shallow brooks are noisy.
Defer not till the evening what the morning may accomplish.
Delays are dangerous.
Deliberate slowly, execute promptly.
Depend not on fortune, but on conduct.
Dependence is a poor trade to follow.
Deride not any man's infirmities.
Desires are nourished by delays.
Deserve success, and you shall command it.
Despise none, despair of none.
Diligence is the mistress of success.
Diseases are the interests paid for pleasures.
Do as the most do, and fewest will speak evil of you.*
Do as you would be done by.
Dogs wag their tails not so much in love to you as to your bread.
Doing nothing is doing ill.
Do not burn daylight upon it.
Do not halloo till you are out of the wood.
Do not make fish of one and flesh of another.
Do not rip up old sores.
Do not spur a free horse.
Do not throw your opinions in every body's teeth.
Don't be all your days trotting on a cabbage leaf.
Don't buy a pig in a poke.
Don't measure other people's corn by your bushel.
Don't neglect to feather your nest.
Don't run away with more than you can carry.
Don't value a gem by what it is set in.
Do what thou oughtest, and come what can.
Down with the dust [pay the money].
Drunkenness is a pair of spectacles to see the devil and all his works.
Drunkenness reduces a man below the standard of a brute.

Eagles fly alone, but sheep flock together.
Early to bed, and early to rise,
Makes a man healthy, wealthy, and wise.
Eat what you like, but pocket nothing.
Empty vessels make the greatest sound.
Enough is as good as a feast.
Entertain honour with humility, and poverty with patience.
Evening oats are good morning's fodder.
Ever drunk ever dry.
Ever spare and ever have.
Every bean hath its black.
Every body's business is nobody's business.
Every couple is not a pair.
Every dog has his day.
Every herring must hang by its own head.
Every Jack has his Gill.
Every man is the architect of his own fortune.
Every one for himself, and God for us all.
Every one puts his fault on the times.
Every one to their liking, as the old woman said she kissed her cow.
Every path hath a puddle.
Every shoe fits not every foot.
Every thing hath an end, and a pudding hath two.
Every thing is good in its season.
Every thing is the worse for wearing.
Example teaches more than precept.
Experience is the mother of science.
Experience teaches fools.
Evil communications corrupt good manners.
Evil gotten evil spent.

Faint heart never won fair lady.
Fair and softly go far in a day.
Fair words make fools fain.
Fall not out with a friend for a trifle.
False friends are worse than open enemies.
Fancy may bolt bran and think it flour.
Far-fetched and dear-bought is good for ladies.
Fat paunches make lean pates.
Fat sorrow is better than lean sorrow.
Few take care to live well, but many to live long.
Fiddler's fare—meat, drink, and money.
Fine feathers make fine birds.
Fine words butter no parsnips.
Fire and water are good servants, but bad masters.
Fire is not to be quenched with tow.
First deserve and then desire.
Fly pleasure, and it will follow thee.
Fools make feasts, and wise men eat them.
Fools should never see half-done work.
Fools tie knots, and wise men loose them.
Fools will be meddling.
Forbearance is no acquittance.
Forgive and forget.
Forgive any sooner than thyself.
Fortune favours the brave.
Fortune has no power over discretion.
Fortune knocks once at least at every man's gate.
For want of company, welcome trumpery.
From fame to infamy is a beaten road.

Gather thistles, expect prickles.
Gentry sent to market will not buy one bushel of corn.
Get thy spindle and distaff ready, and God will send flax.
Give a dog an ill name and hang him.
Give a rogue rope enough, and he will hang himself.
Give it plenty of elbow grease [hard rubbing].
Give the devil his due.
God help the rich, the poor can beg.
God helps those who help themselves.
God send you more wit, and me more money.
God tempers the wind to the shorn lamb.
Go farther and fare worse.
Good counsel is above all price.
Good harvests make men prodigal, bad ones prudent.
Good to be merry at meat.
Good ware makes quick markets.
Good wine needs no bush.
Good words cost nothing, but are worth much.
Goods are not theirs who enjoy them.
Gossiping and lying go hand in hand.

* In most cases this would be a bad advice.

AYINGS.

spends all he gets is in the highroad to

wims in sin will sink in sorrow.
ould catch fish must not mind getting wet.
ould reap well must sow well.
good finders.
is buttered on both sides.
bigger than his belly.
e's no slander.
ome though it be ever so homely.
good breakfast, but a bad supper.
s soon cold.
ot swallow.
is the foundation of all virtue.
the best sauce.
gs eat dirty puddings.

as far into a millstone as the picker.
have the most labour.
have the least leisure.
s the greatest prodigality.
s the parent of want and shame.
s the root of all evil.
s the sepulchre of a living man.
ne would mend one, all would be amended.
n sows not corn, it plants thistles.
fit, wear it.
untain will not come to Mahomet, Mahomet
to the mountain.
were to be done twice, all would be wise.
due not our passions, they will subdue us.
were horses, beggars would ride.
e an inch, he will take an ell.
ve too many irons in the fire, some of them
n.
uld enjoy the fruit, pluck not the flower.
is the parent of many injuries.
row to pluck with him.
ed too near a wood to be frightened by owls.
ner fish to fry.
him no farther than I can fling him.
les are like contagious diseases.
goods seldom prosper.
ravels apace.
ng and ill wintering tame both man and

grow apace.
sea every man is a pilot.
ear and out at the other.
craves advice that will not follow it.
ey is the attendant of a weak mind.
ore to revenge injuries than to bear them.
th ways, like a two-edged sword.
horse that refuses to carry his provender.
g road that has no turning.
wind that blows nobody good.
r to do well, than to say well.
to begin well, but better to end well.
painful to learn in youth than to be igno-
age.
r too late to learn.
hall conquest to overcome yourself.
he cowl that maketh the friar.
cause that none dare speak in.
suck will abide no clouting.
horse that never stumbles.
r sport that's not worth the candle.
heart that never rejoices.
child that knows its own father.
procession where the devil holds the candle.
o bowl down hill.
ling an old sore.
aving against the wool.
r in the hall when beards wag all.
painful to do nothing than something.
e gay coat makes the gentleman.
le for a ram to kill a butcher.
pick a lock and steal a horse, but wisdom
lown above.

Jack Nokes and Tom Stiles.
Jack of all trades and master of none.
Jesting lies bring serious sorrows.
Judge not of a ship as she lies on the stocks.
Judge not of men or things at first sight.

Keep a thing seven years, and you will find a use for it.
Keep counsel thyself first.
Keep good men company, and you shall be of the number.
Keep no more cats than will catch mice.
Keep the bowels open, the head cool, and the feet warm, and a fig for physicians.
Keep thy shop, and thy shop will keep thee.
Keep your tongue within your teeth.
Kill two birds with one stone.
Kindness is lost upon an ungrateful man.
Kindnesses, like grain, increase by sowing.
Kissing goes by favour.
Knavery may serve a turn, but honesty is best in the end.

Land was never lost for want of an heir.
Lazy folks take the most pains.
Least said is soonest mended.
Lend thy horse, and thou mayest have back his skin.
Let every pedlar carry his own burden.
Let every tub stand on its own bottom.
Let not your tongue cut your throat.
Let sleeping dogs lie.
Let the cobbler stick to his last.
Let them laugh that win.
Life is half spent before we know what it is.
Life without a friend is death without a witness.
Light come, light go.
Lips however rosy must be fed.
Little and often fills the purse.
Little boats must keep near shore.
Little pitchers have great ears.
Little sticks kindle the fire, but great ones put it out.
Live and let live.
Live not to eat, but eat to live.
Lowly set, richly worn.
Lock the stable door when the steed is stolen.
Long looked-for comes at last.
Look before you leap.
Look to the main chance.
Look twice ere you determine once.
Lookers-on see more than players.
Losers are always in the wrong.
Love asks faith, and faith asks firmness.
Love me, love my dog.
Lovers live by love as larks by leeks. [Ironical.]
Lucky men need little counsel.

Make a virtue of necessity.
Make hay while the sun shines.
Make not your sail too large for your ship.
Make the best of a bad bargain.
Making a toil of a pleasure.
Man doth what he can, and God what he will.
Man proposes, God disposes.
Manners often make fortunes.
Many a slip betwixt the cup and the lip.
Many a true word is spoken in jest.
Many can pack the cards that cannot play.
Many go out for wool and come home shorn.
Many hands make light work.
Many words will not fill the bushel.
Marry in haste, repent at leisure.
Marry your sons when you will, your daughters when you can.
Mills and wives are ever wanting.
Mischiefs come by the pound, and go away by the ounce.
Misfortunes seldom come alone.
Misreckoning is no payment.
Modesty is the handmaid of virtue.
Money makes the mare to go.
Money will do more than my lord's letter.
More afraid than hurt.
Much is expected where much is given.
Much water goes by the mill the miller knows n
Much would have more and lost all.
Muffled cats are bad mousers.
Murder will out.
My son is my son till he gets him a wife,
But my daughter's my daughter all the days
life.

Necessity is the mother of invention.
Neither praise nor dispraise thyself; thine actio
the turn.
Never carry two faces under one hood.
Never fall out with your bread and butter.
Never find any thing before it is lost.
Never fish in troubled waters.
Never light your candle at both ends.
Never look a gift horse in the mouth.
Never make a mountain of a mole-hill.
Never quit certainty for hope.
Never ride a free horse to death.
Never sound the trumpet of your own prais
Never split against the grain.
Never tread on a sore toe.
Never trust to a broken staff.
Never venture out of your depth till you can
Never wade in unknown waters.
New brooms sweep clean.
New lights often come through cracks in the
New lords, new laws.
Next to love, quietness.
No alchemy is equal to saving.
No man can serve two masters.
No man should live like a toad under a harr
No mill, no meal.
None are so deaf as those that will not hear.
None knows the weight of another's burden.
None so blind as those who will not see.
No pot is so ugly as not to find a cover.
No receiver, no thief.
No rose without a thorn.
Nothing comes out of the sack but what was
Nothing dries sooner than tears.
Nothing down, nothing up.
Nothing is impossible to a willing mind.
Nothing venture, nothing win.

Of all studies, study your present condition.
Of all the crafts, to be an honest man is th
craft.
Of all prodigality, that of time is the worst.
Of two evils choose the least.
Old bees yield no honey.
Old birds are not to be caught with chaff.
Old friends and old wine are best.
Old friends to meet, old wine to drink, and
to burn.
Old reckonings breed new disputes.
One bad example spoils many good precepts.
One barber shaves not so close but another finds
One eye-witness is better than ten hearsays.
One flower makes no garland.
One good turn deserves another.
One half the world knows not how the other ha
One hour's sleep before midnight is worth two
One is not so soon healed as hurt.
One man may steal a horse, when another
look over the hedge.
One man's meat is another's poison.
One nail drives out another.
One never loses by doing a good turn.
One ounce of discretion is worth a pound of w
One scabbed sheep will mar a flock.
One swallow makes not a spring, nor one
a winter.
One tale is good till another is told.
Open rebuke is better than secret hatred.

AYINGS.

ver, as the fox said when he could not reach

l and spend well.
n you are young and spend when you are old.
truth and shame the devil.
the gift of all, but thought of few.
not seen by sunshine.
opinions on no person's sleeve.
ur legs according to your coverlet.
ile the iron is hot.
e worthy of your parents.
elcome, such a farewell.
e tree is, such is the fruit.

of the pence, and the pounds will take care
selves.
l of an ox before, an ass behind, and a knave
ides.
l will surely speed.
will for the deed.
by the forelock.
e devil and he'll appear.
ays no toll.
he company you keep, and I'll tell you what
.
ce is the best physic.
ell spoken that is well taken.
ny is well spent that saves a groat.
cing the cart before the horse.
laid on with a trowel.
nt party is still faulty.
hat brays most eats least.
physicians are Dr Diet, Dr Quiet, and Dr
man.
r day the better deed.
l man's wife needs no painting.
der's wife is the worst shod.
forter's head never aches.
tous man is his own tormentor.
r thinks her own bird the fairest.
l is not as black as he is painted.
vil was sick, the devil a monk would be;
vil grew well, the devil a monk was he.
of a feast is better than the beginning of a

of the master does more work than both his

rest way about is often the nearest way home.
ty stands on his guard.
most dog catches the hare.
ld jade will wince.
fness of a pudding is known in the eating.
y mare is the better horse.
atest burdens are not the gainfullest.
atest strokes make not the best music.
atest wealth is contentment with little.
at is ill saved that shames the master.
ty mind needs no accuser.
decrnest flower is not the sweetest.
ty hand catches frogs for fish.
tiest man that is must wait while his drink is
ng.
hway is never about.
hest branch is not the safest roost.
ter war the sooner peace.
drop makes the cup run over.
suitor wins the maid.
's skin is never cheap.
gest day must have an end.
rket is the best garden.
rried man must turn his staff into a stake.
ll cannot grind with the water that is past.
b has many heads but no brains.
re noble the more humble.
re the merrier, the fewer the better cheer.
re you buy, the worse you cheap.
rer the church the farther from God.
ender never yardeth.
th of virtue is the path of peace.

The rat which has but one hole is soon caught.
The receiver is as bad as the thief.
The still sow sucks the most wash.
The sweetest wine makes the sharpest vinegar.
There is a tide in the affairs of men, which taken at the flood leads on to fortune.
There is luck in leisure.
There is reason in roasting eggs.
There's a salve for every sore.
There's no compassion like the penny.
There's no fool like an old fool.
There's no general rule without an exception.
There's no joy without alloy.
The table robs more than the thief.
The truest jests sound worst in guilty ears.
The truth may be blamed but not shamed.
The weakest must go to the wall.
The wearer best knows where the shoe pinches him.
There would be no ill language if it were not ill taken.
There would not be great ones if there were no little.
They love too much that die for love.
They must hunger in frost, that will not work in heat.
They need much whom nothing will content.
Think of ease, but work on.
Those who live longest will see most.
Those who play with edge tools must expect to be cut.
Threatened folks live long.
Time and tide stay for no man.
Time is a file that wears and makes no noise.
Timely blossom, timely fruit.
'Tis the second blow that makes the fray.
To a child all weather is cold.
To a crazy ship all winds are contrary.
To be hail fellow well met with one. [In good fellowship].
To be in a merry pin.
To dine with Duke Humphry. [To go without dinner].
To err is human, to forgive divine.
To find a mare's nest. [To discover something already well known].
To give and keep there is need of wit.
To go through thick and thin. [Stick at nothing.]
To go to pot.
To have nothing but one's labour for one's pains.
To have the law in one's own hand.
To have two strings to one's bow.
To kill two birds with one stone.
To laugh in one's sleeve.
To leave a morsel for the Duke of Rutland. [That is—to leave it for the sake of *manners*, Manners being the family surname of the Duke of Rutland.]
Too many cooks spoil the broth.
Too much familiarity breeds contempt.
To play the dog in the manger. [Not to eat yourself nor let any body else.]
To put one's nose out of joint.
To rob Peter to pay Paul.
To seek a needle in a bottle of hay.
To send one away with a flea in his ear [in a state of trepidation and astonishment.]
To set up one's staff of rest [to propose to abide in a place.]
To stand in one's own light.
To starve in a cook-shop.
To strain at a gnat and swallow a camel.
To take a wrong sow by the ear.
To tell tales out of school.
To throw the helve after the hatchet [giving up a thing in despair.]
To twist a rope of sand.
Trade is the mother of money.
Tread on a worm and it will turn.
Trim-tram—like master, like man.
True praise takes root and spreads.
Truth hath always a fast bottom.
Two heads are better than one.
Two of a trade seldom agree.
Two swallows do not make a summer.

Unknown, unmissed.
Unminded, unmoved.
Use the means, and God will give the blessing.

Valour is worth little without discretion.
Valour that parleys is near yielding.
Venture a small fish to catch a great one.
Venture not all in one bottom.

War is death's feast.
Waste not, want not.
Wealth makes worship.
Welcome is the best cheer.
We must eat a peck of salt with a man be know him.
We never know the worth of water till the we
What cannot be cured must be endured.
What is bred in the bone will not come o flesh.
What is got over the devil's back is spent u belly.
What the eye sees not the heart rues not.
What the goodwife spares, the cat eats.
When a dog is drowning, every one offers him
When all is consumed, repentance comes too l
When fortune smiles on thee, take the advanta
When many strike on an anvil, they strike by
When poverty comes in at the door, love fl the window.
When rogues fall out, honest men get their
When sorrow is asleep, wake it not.
When the cat's away, the mice play.
When the goodman's from home, the goodwi is soon spread.
When wine's in wit's out.
When two Sundays meet. [Never.]
When you are at Rome, do as they do at Ro
When we have gold we are in fear, when none we are in danger.
When drink enters, wisdom departs.
Where much smoke is, there must be some fir
Where the carcass is, there the ravens wi together.
Where the king is, there is the court.
Where the will is ready the feet are light.
Where there is a will there is always a way.
Write injuries in dust, but kindnesses in marb
While the grass grows the cow starves.
While there's life there's hope.
Who dainties love shall beggars prove.
Who loseth his due getteth no thanks.
Who perisheth in needless danger is the devil's
Who spends more than he should, shall not spend when he would.
Who spits against the wind spits in his own fa
Wide will wear, but narrow will tear.
Wilful waste makes woful want.
Wise men care not for what they cannot have.
Wisely and slow: they stumble who run fast.
Wool sellers know wool buyers.
Words may pass, but blows fall heavy.
Wranglers never want words.

York—every man pay his share.
You are busy as a hen with one chick.
You come like a godfather after the christening
You can look at teeth and not be bitten.
You can't see green cheese but your teeth wa
You cannot catch old birds with chaff.
You cannot eat your cake and have it also.
You cannot have blood out of a stone.
You cannot hide an eel in a sack.
You cannot kill a dog with a bone.
You cannot make a silk purse out of a sow's ea
You cannot wash the blackamore white.
You need not grease a fat sow.
You taste the broth soon as the meat is put in.

AYINGS.

lmud than drave.
ar shoon than wear sheets.
o shoulders judge o' colours.
a silk gown and ye'll get a sleeve o't.
read makes hale haires.
a halfpenny candle seeking a farthing.
irns dread the fire.
e a cripple may catch a hare.

have aye mind of lade saddles.
retch, soon reach.
saut to Dysart.
ne in a deil's teeth.
a clout till May be out.
at the dowed water till ye get the fresh.
ds the love that kindles ower het.
our friend ere you hae need.
kythes.
ss is nae pride, dirt's nae honesty.
ca'd aits unserved.
the wind and gang wi' the water.
nd be hanged.
lebt and crave days.
weel, he'll work the better.
nin is not forbidden.
ler after a' your kin.
is cumbersome to him that kens it na.
ness brings naething hame.
un hae claes, but truth gaes naked.
better than ill luck.
better than ill-won gear.
eeps the crown o' the causey.
st is like a broken glass.

ld want o' wit maks auld wives donart.
eem warily, ye wattna wha wytes yoursel.
and laving is good sure fishing.
ts and dead fish are nae keeping ware.
bairns dow bear little.
will peep through a sma' hole.
a' an' serve a'.
ld marriage break term-day.
ae door and hardship at the other.
n the house that ye're beguiled in.
k pride, for my dog died o't.
wn the nest, and the rooks will flee away.
st awa' the cog when the cow flings.
es luck.
at your fish till ye get them.
e lasses do, say Na, an' tak it.
rk as they are bred.
bairns are aye fond o' fools.
meddle wi' the deil an' the laird's bairns.
buch him an the sair heel.
ill life soon mak an auld wife.
drinks are aye guid for drowth.
an' doubt nae man, do ill an' doubt a' men.
an' hae weel.
' dominies leave aye a foul house.
turn weel, an' nane will speer what time ye

sought, but drink was his errand.
the inch when ye have tholed the span.
' drowth come nae aye thegither.
ttle that ye may drink lang.
cow to the ha', she'll run to the byre.

rds catch the worms.
aster, soon knave.
west, hame is best.
rned, soon forgotten.
ruing the rat the road to the kirn.
that thy ain heart wills.
orking when will's at hame.
easure, an' defy the doctor.
wi' a prince, an' cherries wi' a chapman.
's Drink-weel's brither.
n' cleaning only require a beginning.
n' drinking yuts awa the stamach.

Ell and tell is gude merchandise.
Envy is the rack of the soul and torture of the body.
Envy ne'er does a gude turn but when it means an ill ane.
Even as you won it say may you wear't.
Ever busy ever bare.
Every ane loups the dike where it's laighest.
Every ane to his trade, quoth the browster to the bishop.
Every bird thinks its ain nest best.
Every cock craws crousest on his ain midden head.
Every day's no Yule-day—cast the cat a castock.
Every fault has its fore.
Every flow has its ebb.
Every inch of joy has an ell of annoy.
Every man bows to the bush he gets bield frae.
Every man buckles his belt his ain gate.
Every man can guide an ill wife weel but him that has her.
Every man can tout best on his ain horn.
Every man has his ain draff pock.
Every man's tale's gude till anither's be tauld.
Every May be hath a May not be.
Every miller wad weise the water to his ain mill.
Every play maun be played, an' some maun be the players.

Fair words break nae banes, foul words mony.
Fancy flees before the wind.
Far-awa fowls hae fair feathers.
Farther east the shorter west.
Fause folk should hae mony witnesses.
Fausehood makes ne'er a fair hinder-end.
Favour unused is favour abused.
Fill fu' an' haud fu', that makes a man stark.
Flaes an' a girning wife are waukrife bed-fellows.
Flee ne'er so fast, your fortune will be at your tail.
Fleeing a bird is no the way to grip it.
Fling-at-the-goad was ne'er a gude ox.
Flitting o' farms mak mailens dear.
Fools are aye fond o' flittin'.
Fools are aye seeing ferlies.
Fool's haste is nae speed.
Fools laugh at their ain sport.
Fools set far trysts.
Fools shouldna hae chappin'-sticks.
For fashion's sake, as dogs gang to the market.
For want o' a steek a shoe may be tint.
Forbid a fool a thing, an' that he will do.
Frae saving comes having.
Fresh fish an' poor friends grow soon ill-faured.
Friends are like fiddle-strings, they maunna be screwed ower tight.
Friends gree best at a distance.
Friendship canna stand aye on ae side.
Fry stanes wi' butter, an' the broe will be gude.

Gathering gear is a pleasant pain.
Gaily wad be better.
Gear is easier gotten than guided.
Gentle partans hae lang taes.
Gentle servants are poor men's tinsel.
Get weel, keep weel.
Gie a bairn its will an' a whelp its fill, and neither will do weel.
Gie your tongue mair holidays than your head.
Giff-gaff maks gude friends.
Glasses an' lasses are brittle ware.
Glowering's nae gainsaying.
God ne'er sent the mouth, but he sent the meat wi't.
God send water to that well that folk think will ne'er rin dry.
God shapes the back for the burden.
Good wine makes a bad head and a lang story.
Gratitude is a heavy burden.
Great comfort is like ready gold in need.
Greedy folks hae lang arms.
Griening wives are aye greedy.
Guessed wark's best if weel done.

Gude advice is ne'er out o' season.
Gude ale needs nae wisp.
Gude bairns are eith to lear.
Gude breeding and siller mak our sons gentles.
Gude claes open a' doors.
Gude company on a journey is worth a coach.
Gude gear's not to be gapped.
Gude fishing in drumly water.
Gude folk are scarce, tak care o' ane.
Gude forecast farthers the wark.
Gude health is better than wealth.
Gude kail is half meat.
Gude watch prevents harm.
Gude will ne'er wants time to show itsel.
Gude will should be ta'en in part payment.
Gudely cow, gawsy calf.

Hae, gars a deaf man hear.
Hand-in-use is father o' lear.
Hang a thief when he's young, an' he'll no steal when he's auld.
Hang hunger an' drown drouth.
Hankering an' hinging-on is a poor trade.
Happy the wife that's married to a mothering man.
He can hide his meat and seek mair.
He can say Jo, and think it no.
He can see an inch before his nose.
He cares na wha's bairns greet if his laugh.
He comes oftener wi' the rake than the shool.
He complains early that complains o' his tail.
He doesna ken what end o' him's uppermost.
He doesna aye ride when he saddles.
He doesna like his wark that says *now* when it.
He eats the calf i' the cow's wame.
He gangs awa in an ill time that ne'er comes again.
He gangs lang barefoot that wears dead man's shoon.
He girns like a sheep-head in a pair o' tangs.
He has a caup for a' corn.
He has a gude judgment that doesna lippen ain.
He has a hearty hand for gieing a hungry meal.
He has a slid grip that has an eel by the tail.
He has been rowed in his mither's sark tail.
He has brought his pock to a braw market.
He has come to gude by misguiding.
He has coosten his cloak on his ither shoulder.
He has coupit the meikle pot into the little.
He has faut o' a wife that marries mam's pet.
He has feathered his nest, he may flee when he likes.
He has gotten the whip hand of him.
He has lain on his wrang side.
He has licked the butter aff my bread.
He has mair wit in his little finger than ye have in your bouk.
He has muckle prayer but little devotion.
He has some wit, but a fool has the grinding o't.
He has the best end of the string.
He has wit at will that wi' an angry heart still.
He has't o', kind, he coft it not.
He hears wi' his heel, as geese do in harvest.
He kens his ain groats amang ither folk's kail.
He kens whilk side his cake is buttered on.
He'll gie you the whistle o' your groat.
He'll have eneugh some day, when his mouth's mools.
He'll mak an ill runner that canna gang.
He'll mend when he grows better, like sour summer.
He'll neither dance nor haud the candle.
He'll no gie an inch o' his will for a span o' his life.
He'll no let grass grow at his heels.
He'll no sell his hen on a rainy day.
He'll soon be a beggar that canna say no.
He'll tell it to nae mair than he meets.
He lo'ed mutton weel that licked where the ewe.
He lo'es me for little that hates me for nought.
He looks like the far end of a French fiddle.
He maun be soon up that cheats the tod.

› leave to speak that canna haud his

fault that canna mend.
ng spoon that sups wi' the deil.
a gude darg that gaed grumbling about it.
sin in his punishment.
er that never fa's.
at forgets himsel.
at marries at Yule; for when the bairn's
› corn's to shear.
of a right nest.
f a wise mind, that of a foe can mak a

cook that maunna lick his ain fingers.
fox that winna scrape his ain hole.
niel that can neither do nor say.
ess guidman that's no miss'd.
me as water in a riven ship.
af on that side o' the head.
close that has riven breeks.
dogs do when wives sift meal.
ie in a blanket.
singet cat, better than he's likely.
est wright that casts maist spails.
aft as he lets on.
›n up that's hanged e'er noon.
ugh that's ill lo'ed.
ung that's paid wi' his ain wand.
straes, and lets windlins gae.
that winna traik.
in his ain house that canna pick a bane in
ur's.
rthy o' sorrow that buys it.
den there ben, that will neither borrow

t's timely wasy.
ae weel that can bide nae wae.
s best let him beat the horn.
› nuts buys shells, but he that buys gude
ething else.
a mak sport should mar nane.
its me ance, shame fa' him; if he cheat
hame fa' me.
its a' costs will ne'er put plough i' the

in dirt has aye foul fingers.
you an ill turn will ne'er forgie you.
asts a' perils will win nae worship.
n a gutter, the langer he lies the dirtier

s before the net, fishes lang or he fish get.
forgets, but he that wants thinks on.
gear before he gets wit, will die e'er he

› mickle nose thinks ilk ane speaks o't.
›ut ae e'e maun tent that weel.
nickle wad aye hae mair.
nae gear to tine may hae shins to pine.
wa hoards will get a third.
is through a hole may see what will vex

› his pot may seethe his kail in his loof.
› to freets, freets will follow him.
s or he be ready, wants aye some o' his

ght the cow gangs nearest the tail.
to himsel will be gude to nacbody.
s motes gets motes.
's his purse bribes the thief.
rs all opinions comes ill speed.
s can hide too.
es overcomes.
ll cheat in play winna be honest in

not thole maun flit mony a hole.
to Cupar maun to Cupar.
a when he may, shanna when he wad.
ld eat the kirnel maun crack the nut.
; a mile to flit a sow.

He wad gar you trow that the moon's made o' green cheese.
He wad tine his lugs if they were not tacked to him.
He was mair fleyed than hurt.
He was scant o' news that tauld his father was hanged.
He was the bee that made the honey.
He winna send you awa' wi' a sair heart.
Highlanders—shoulder to shoulder.

I canna sell the cow an' sup the milk.
I hae mair to do than a dish to wash.
I ken by my cog my cow's milked.
If ae sheep loup the dyke, a' the rest will follow.
If the deil be laird, ye'll be tenant.
If the deil find you idle, he'll set you to wark.
If the lift fa', the laverocks will be smoored.
If you win at that, you'll lose at naething.
If ye sell your purse to your wife, gie her your breeks to the bargain.
Ill bairns are aye best heard at hame.
Ill bairns aye get broken brows.
Ill beef ne'er made gude broe.
Ill comes upon waur's back.
Ill counsel will gar a man stick his ain mare.
Ill doers are aye ill dreaders.
Ill getting het water frae 'neath cauld ice.
Ill hearing maks wrang rehearsing.
Ill herds mak fat foxes.
Ill laying up maks mony thieves.
Ill payers are aye gude cravers.
Ill will ne'er spak weel.
Ill-won gear winna enrich the third heir.
Ill workers are aye gude onlookers.
I'll ne'er brew drink to treat drunkards.
I'll ne'er keep a cow when I can get milk sae cheap.
I'll ne'er keep a dog and bark mysel.
I'll ne'er lout sae laigh and lift sae little.
I'll ne'er put the rogue aboon the gentleman.
I'll rather strive wi' the lang rigg than the ill neighbour.
I'll serve ye when ye hae least to do.
I'll tak the best first, as the priest did o' the plums.
I might bring a better speaker frae hame than you.
I'm no every man's dog that whistles on me.
I'm no obliged to summer an' winter it wi' you.
I'm no sae blind as I'm bleer-eyed.
I'm no sae scant o' clean pipes as to blaw wi' a brunt cutty.
I'm o'er auld a cat to draw a strae before.
I'm speaking o' hay and you o' horse corn.
I ne'er sat on your coat-tail.
I think mair o' your kindness than its a' worth.
It maun be true what a' folk says.
It's a far cry to Lochaw.
It's a hard task to be poor and leal.
It's a mean mouse that has but ae hole.
It's a nasty bird that files its ain nest.
It's a silly hen that canna scrape for ae bird.
It's an ill pack that's no worth the custom.
It's better to sup wi' a cutty than want a spoon.
It's by the head that the cow gies milk.
It's far to seek an' ill to find.
It's gude baking beside the meal.
It's gude sleeping in a hale skin.
It's gude to be sib to siller.
It's gude gear that pleases the merchant.
It's gude to be in your time, ye kenna how lang it may last.
It's gude to dread the warst, the best will be the welcomer.
It's hard both to have and want.
It's hard for a greedy e'e to hae a leal heart.
It's hard to sit in Rome an' strive wi' the pope.
It's ill bringing butt what's no ben.
It's ill speaking between a fu' man and a fasting.
It's ill wared that wasters want.
It's kittle for the cheeks when the hurlbarrow gaes o'er the brig o' the nose.

It's kittle shooting at corbies and clergy.
It's kittle to waken sleeping dogs.
It's lang before the deil be found dead at the dyke-side.
It's lang ere the deil dee.
It's nae laughing to girn in a widdy.
It's nae play when ane laughs and anither greets.
It's needless to pour water on a drowned mouse.
It's no lost what a friend gets.
It's not what is she but what has she.
Its ower far between the kitchen an' the ha'.
It's ower late to spare when the back's bare.
It's past jouking when the head's aff.
It's stinking praise comes out o' ane's ain mouth.
It's the best spoke in your wheel.
It's well that our faults are not written in our face.
It was never for naething that the gleg whistled.
It will be feathered out o' your wing.
It will be lang ere ye wear to the knee lids.
I wad be scant o' claith to sole my hose wi' dockens.
I would rather see't than hear tell o't.
I wadna be deaved wi' ye're keckling for a' your eggs.
I wadna ca' the king my cousin.
I wish you readier meat than a rinnin hare.

Joke at leisure, you kenna wha may jibe yoursel.
Jouk and let the jaw gang by.

Keep out o' his company that cracks o' his cheatery.
Keep something for a sore foot.
Keep the feast till the feast day.
Keep the staff in your ain hand.
Keep your ain fish guts to your ain sea-maws.
Keep your breath to cool your own porridge.
Keep your mouth shut and your e'en open.
Ken when to spend and when to spare, and ye needna be busy, and ye'll ne'er be bare.
Ken yoursel, and your neighbour winna misken you.
Kend folk's nae company.
Kings and bears aft worry their keepers.
Kings' chaff's worth other folk's corn.
Kings' cheese gaes half away in parings.
Kings hae lang hands.
Kindle a candle at baith ends, it will soon be done.
Kindness comes o' will, it canna be coft.
Kindness will creep where it canna gang.
Kiss a carle and clap a carle, that's the way to tine a carle.
Kythe in your ain colours, that folk may ken you.

Laith to bed and laith to rise.
Lang fasting gathers wind.
Lang fasting hains nae meat.
Lang standing and little offering maks a poor priest.
Lang straes are nae motes.
Laugh at leisure, ye may greet ere night.
Law's costly, tak a pint and gree.
Law makers shouldna be law breakers.
Lay the head o' the sow to the tail o' the grice.
Lay your wame to your winning.
Leal heart never lied.
Learn the cat the road to the kirn, and she'll aye be lickin.
Learn you to an ill habit, and ye'll ca't custom.
Learn young, learn fair.
Let a' trades live, quoth the wife, when she brunt her besom.
Let alane, maks mony a loon.
Let byganes be byganes.
Let him cool in the skin he het in.
Let him tak a spring on his ain fiddle.
Let his ain wand ding him.
Let ilka ane soop before their ain door.
Let ilka sheep hang by its ain shank.
Let na the plough stand to kill a mouse.
Let the horns gang wi' the hide.
Let the mickle horse get the mickle windlin.
Let the tow gang wi' the bucket.
Let them care that come behind.
Let your meat dit your mouth.
Light burdens break nae banes.
Like a cow on an unco loan.
Like a sow playing on a trump.
Like butter in the black dog's hause.
Like hens, ye rin aye to the heap.
Like the bairns o' Falkirk, ye mind naething [illegible] chief.
Like the cat, fain fish wad ye eat, but ye are [illegible] weet your feet.
Like the wife that aye took what she had, [illegible] wanted.
Like the wife that ne'er cries for the ladle till [illegible] rins o'er.
Like the wife wi' the mony daughters, the last [illegible] hindmost.
Like's an ill mark.
Lippen to me, but look to yoursel.
List to meat's gude kitchen.*
Little dogs hae lang tails.
Little folk are soon angry.
Little Jock gets the little dish, and that hauds [illegible] little.
Little kenned, the less cared for.
Little meddling maks fair parting.
Little wats the ill-willy wife what a dinner may
Little wit in the head maks mickle travel to the
Little mense to the cheeks to bite aff the nose.
Living at heck and manger.
Lock your door, that you may keep your neighbour honest.
Lo'e me little, an' lo'e me lang.
Love and lairdships like nae marrows [equals]
Love is as warm among cottars as courtiers.
Love owerlooks mony faults.

Maidens should be mild and meek, quick to hear, slow to speak.
Mair by luck than gude guiding.
Mair haste the waur speed, quoth the tailor lang thread.
Mair than eneugh is ower mickle.
Mak a kirk an' a mill o't.
Mak nae toom ruse.
Malice is aye mindfu'.
Marriage and hanging go by destiny.
Marry a beggar, and get a louse for your tocher.
Marry aboon your match, and get a master.
Marry for love, and work for siller.
Master's will is gude wark.
Mastery maws the meadows down.
Maun-do is a fell fallow.
May-be's are no aye honey-bees.
Measure twice, cut but ance.
Meat feeds, claith cleads, but manners mak the man.
Mickle musing mars the memory.
Mickle power maks mony foes.
Mickle about ane, quoth the deil to the collier.
Mickle gifts mak beggars bauld.
Mickle head, little wit.
Mickle maun a gude heart thole.
Mickle meat, mony maladies.
Mess and meat ne'er hinder'd wark.
Mettle's dangerous in a blind mare.
Money is like the muck midden, it does nae gude be spread.
Money is welcome any way.
Money maks a man free ilka where.
Mony an honest man needs help that hasna the sense to seek it.
Mony ane kisses the bairn for love o' the nurse.
Mony ane lacks what they would fain hae in pack.
Mony ane serves a thankless master.
Mony ane speers the gate they ken fu' weel.
Mony ane's gear is mony ane's death.
Mony gude-nights is laith away.

* Hunger is the best sauce.

SAYINGS.

s pennies in a purse and they'll creep thegither.
ur finger in the fire, and say it was your fur-

ur hand twice to your bonnet for nane to your

without quantity is little thought of.
alves are dear veal.
for you'll ne'er be cleanly.
ess is best.

spoil your joke than tine your friend.
ads mak fat lads.
ather raxes weel.
up your winning at your bed-stock.
od maks good spindles.
tion is often got without merit and lost without
e.
ilk has routh o' friends.
ixture maks gude mortar.
are got wi' pain, kept wi' care, and tint wi'

ir, and jap nane.
wrangs nae man.
h's contract—stark love and kindness.
the fair day at e'en.
d thyme grow baith in ae garden.
outh weel, for eild will rule itsel.

quoth the souter, when he had eaten a cow a'
he tail.
in, shear thin.
l No, and ye'll ne'er be married.
cheeks mak a lang nose.
he-cog wad sup mair.
our gentle blind to the market, and see what it
buy.
yourself till your bairns come of age.
tout heart to a stey brae.
fa' them that think shame to do themselves a
turn.
k her elbow at the kirk door.
uds up her head like a hen drinking water.
ks as if butter wadna melt in her mouth.
ks like a lady in a landward kirk.
t gangs to the well wi' an ill will, either the pig
ks or the water will spill.
keep her ain side o' the house, and gang up and
yours.
wear like a horse-shoe, aye the langer the
er.
etter than she's bonny.
e the man, and I'll show you the law.
e gie, sic will ye get.
gripe the mouse.
leaves a sair behind.
waters run deep.
nough if weel enough.
nough to cry Chuck, when it's out o' the shell.
and ill weather come unsent for.
is soon enough when it comes.
ood of pipers, your father was a fiddler.
e is waur than water.
e langer in a friend's house than you're wel-

hands out storming.

nan by his word and a cow by her horn.
bit and the buffet wi't.
e ere time he tint.
i' your anger.
ur ain will, and ye'll no die o' the pet.
ur thanks to feed your cat.
ur venture, as many a gude ship has done.
Halkerston's cow.*
ck ox ne'er trod on his foot.†

* A story told the reverse of this well-conversed.
† Death never gave him scathe.

The book o' maybes is very braid.
The cost owergangs the profit.
The deil aye drives his hogs to an ill market.
The deil doesna aye show his cloven cloots.
The deil gaes awa when he finds the door steekit against him.
The deil's bairns have aye their daddy's luck.
The deil's aye gude to his ain.
The deil's gane ower Jock Wabster.*
The deil will tak little ere he want a'.
The deil's aye busy wi' his ain.
The first fut o' a fat haggis is the bauldest.
The foot at the cradle and the hand at the reel, is a sign that a woman means to do weel.
The grace o' a grey bannock's in the baking o't.
The head for the washing.
The higher the hill the laigher the grass.
The hurt man writes wi' steel on marble stane.
The king may come in the cadger's gate.
The kirk's mickle, but you may say mass in the end o't.
The laird may be laird, and yet need his hind's help.
The master's foot's the best measure.
The o'ercome only fashes folk to keep.
There is an act in the Laird o' Grant's court, that no aboon eleven speak at ance.
There was a wife that kept her supper for her breakfast, and she was dead ere day.
There was ne'er a gude town but there was a dub at the end o't.
There was never a silly Jocky but there was as silly a Jenny.
There was ne'er a thrifty wife wi' a sheet about her head.
There's a dub before every door.
There's a tough sinew in an auld wife's heel.
There's a whaup i' the raip.†
There's aye some water where the stirkie drowns.
There's beild aneath an auld man's beard.
There's steel in the needle point, though little o't.
There's the end o' an auld sang.
The simple man's the beggar's brither.
The smith's mare and the souter's wife are aye the warst shod.
The tod ne'er sped better than when he gaed his ain errand.
The thing that lies na in your gate breaks na your shins.
The thrift o' you and the woo o' a dog wad mak a braw web.
The worth o' a thing is best kenned by the want o't.
The wife's aye welcome that comes wi' a crooked oxter.‡
They'll gree better when they gang in by different kirk doors.
They that board wi' cats maun count upon scarts.
They that burn you for a witch lose a' their coals.
They that gie you hinder you to buy.
They that lie down for love should rise up for hunger.
They that love maist speak least.
They were scant o' bairns that brought you up.
They are sad rents that come in wi' tears.
They hae need o' a canny cook that hae but ae egg to their dinner.
They may ken by your beard what has been on your board.
They ne'er saw great dainties that think a haggis a feast.
They should kiss the guidwife that wad win the guidman.
They speak o' my drinking, but ne'er think o' my drouth.
They that get a word o' soon rising may lie a' day.
They that see you a' day winna break the house for you at night.
Three can keep a secret when twa are away.

Thrift is a gude revenue.
Time tint is ne'er to be found.
Time and thinking tame the strong
Time tries a'.
Tine heart and a's gane.
Tine thimble, tine thrift.
Tit for tat's fair play.
To him that wills, ways are seldom
Toom stalls mak biting horses.
Truth will aye stand without a pr
Try your friend ere you need him.
Twa words maun gang to that bar

Virtue ne'er grows auld.

Waes the wife that wants the to
man that gets her.
Want o' wit is waur than want o'
War maks thieves, and peace han
We are aye to learn as lang as we
We are bound to be honest and n
Wealth has made mair men covet
has made men wealthy.
Wealth maks wit waver.
Weans maun creep ere they gang.
We canna baith sup and blaw.
Wedding and ill wintering tame b
Weel kens the mouse when th
house.
Weel is that weel does.
We'll never ken the worth o' wa
dry.
We maun live by the living and n
Wha can haud what will be away.
Wha can help misluck.
Wha can help sickness, quoth the
the gutter.
Wha comes oftener and brings ye
Wha daur bell the cat.
Wha invited you to the feast.
Wha wad misca' a Gordon on
bogie.
What better's the house when the
What may be done at ony time
time.
What put that i' your head, that
wi't.
What's my case the day may be y
What's waur than ill luck.
What we first learn we best ken.
What winna do by might do by fl
What ye do when your drunk y
your dry.
What ye want up and down ye ha
When a' men speak, nae man hea
When ae door steeks, anither ane
When friends meet, hearts warm.
When he dies of age ye may quak
When ilka ane gets his ain, the
widdy.
When my head's down my house
When petticoats woo, breeks com
When the barn's fu' ye may thres
When the cap's fu', carry't even.
When the cow's in the clout she s
When the guidman drinks to the
weel.
When the guidwife drinks to the
When the heart's fu' o' lust,
leasing.
When the tod preaches, tak tent
When the tod wins to the wood, h
keek at his tail.
When the wame's fu', the banes
When the well's fu' it will rin ow
When wine sinks, words swim.
When ye're gaun an' comin' the
When ye are weel, haud yoursel
When ye win at that, ye may lick

* All things are gone wrong.
† Something amiss.
‡ Bringing something under her arm.

SAYINGS.

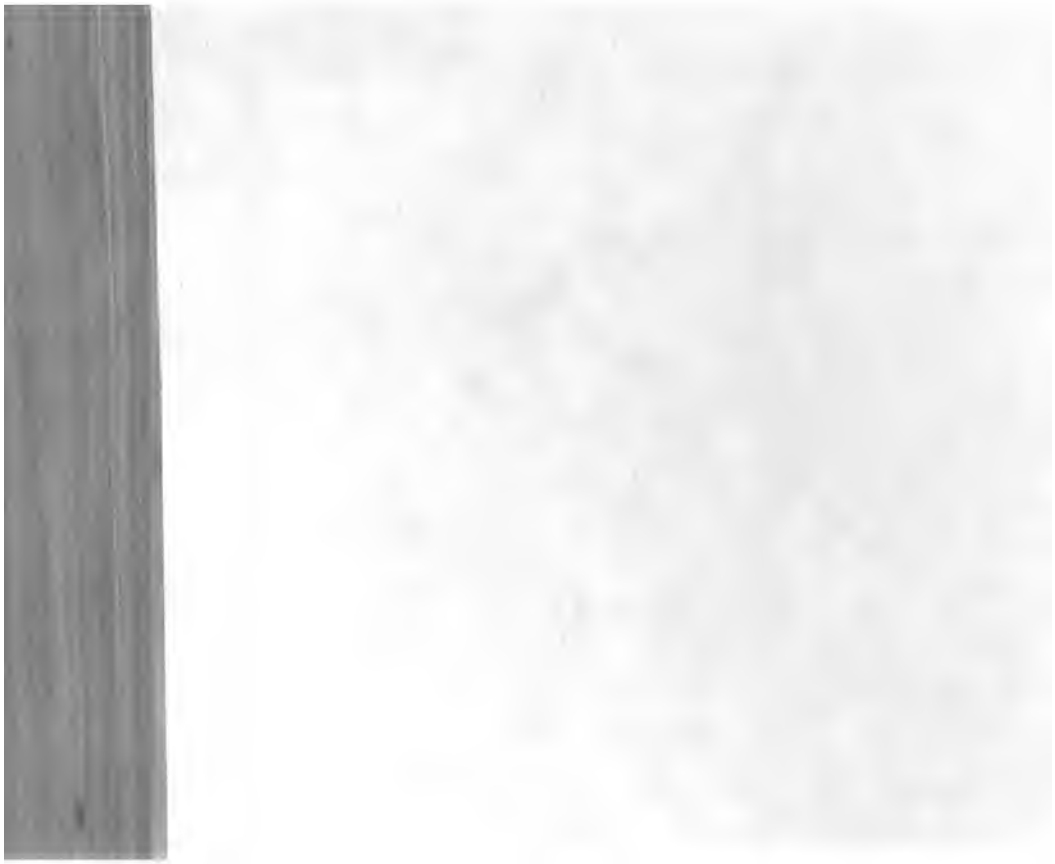
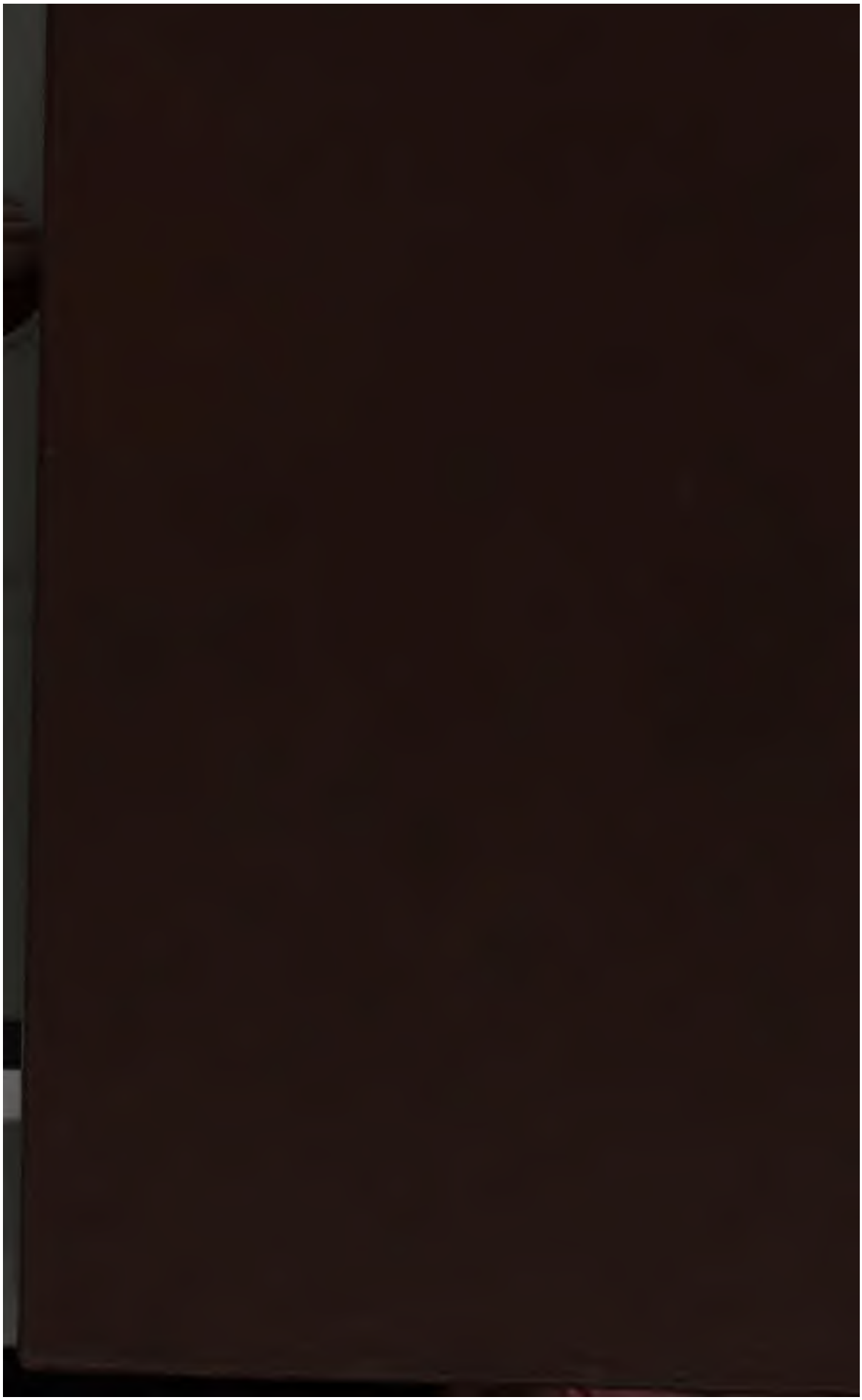
mdi (A. M.) In the year of the world.
ori. From the effect to the cause.
From the cause to the effect.
legantiarum. Master of the ceremonies.
tum ad hominem. An argument to the man.
elare artem. The perfection of art is to conceal.
ram partem. Hear the other party.
ulta, sed loquere pauca. Hear much, but say

ra fames. The accursed appetite for gold.
ar aut nullus. He will either be Cæsar or
.
tutis constantia. Constancy is the foundation
ue.
le qui procul negotiis. Blessed are they who
from toil.
. In good faith; in reality.
fulmen. A harmless thunderbolt.
s. An evil custom. Thus, cacoethes loquendi—
di. A rage for talking—scribbling.
elli. The cause or reason for war.
rtuum. The worthless remains.
. Submit to God.
quis. Give way to the powerful.
rma togæ. Let arms yield to eloquence.
ete finem. Aim at a sure end.
ia proprie dicere. To express common things
ropriety.
negotiis. In a state of sane mind.
s res parvæ crescunt. Small things increase
on.
ecte agens. Fear not while acting justly.
nos mores. Against good morals.
elicti. The body of the crime.
udæus apella. Let the circumcised Jew be
at.
! To what good!
calamo. With a running pen.
hings given or granted.
—de jure. From the fact—from the law.
lo pariterque momento. By imparting at once
n and instruction.
est Carthago. Carthage must be destroyed.
erds of Cato.)
is nil nisi bonum. Let nothing be said of the
ut what is favourable.
nte—juvante—volente. With God's favour—
will.
lum. A thing desired.
in loco. To play the fool at the right time.
eters. The remainder is wanting.
le, regem serva. Worship God, serve the

tector noster. God is our protector.
icos. Love your friends.
impera. Divide and govern.
decorum est pro patria mori. It is sweet and
s to die for one's country.
mus vivamus. Let us live while we live.
s in rebus. There is a medium in all things.
etua. Be thou perpetual.
i videris. Be what you seem to be.
ira. From the chair; authoritatively.
gratia (E. g. and Ex. gr.) By way of ex-

nihil fit. Nothing produces nothing.
. By virtue of his office.
On one part.
Herculem. Judge of the size of the statue of
s by the foot.
rede. Believe an experienced man.
re. Without premeditation.
n. Do the like: an engraved resemblance of
iting.
per viret. A good name will shine for ever.
firmat pietas. Devotion strengthens families.
ab hoste doceri. It is allowable to derive
tion even from an enemy.

Felo de se. A suicide.
Fiat justitia, ruat cœlum. Let justice be done, though the heavens should fall.
Fortuna favet fortibus. Fortune favours the bold.
Fruges consumere nati. Men born only to consume food.
Haud passibus æquis. With unequal steps.
Hinc illæ lachrymæ. Hence proceed these tears.
Id est (i. e.) That is.
Id genus omne. All persons of that description.
Imprimatur. Let it be printed.
Impromptu. Without study.
In forma pauperis. In the form of a poor man.
In propria persona. In person.
In re. In the matter of.
In terrorem. In terror.
In transitu. In passing.
Ipse dixit. He himself said it: dogmatism.
Judex damnatur cum nocens absolvitur. Guilt attaches to a judge when the guilty are suffered to escape.
Jure divino—humano. By divine—by human law.
Labor omnia vincit. Labour conquers every thing.
Lapsus linguæ. A slip of the tongue.
Lex talionis. The law of retaliation.
Locum tenens. A deputy or substitute.
Magna est veritas, et prævalebit. The truth is powerful, and will ultimately prevail.
Materiem superabat opus. The workmanship surpassed the materials.
Medio tutissimus ibis. A medium course will be the safest.
Memento mori. Remember death.
Mens sibi conscia recti. A mind conscious of rectitude.
Mirabile dictu. Wonderful to tell.
Multum in parvo. Much in little.
Mutatis mutandis. After making the necessary changes.
Necessitas non habet leges. Necessity has no law.
Nem. con. An abbreviation of *nemine contradicente*. Without dissent or opposition.
Ne plus ultra. Nothing beyond—the utmost point.
Ne quid nimis. Too much of one thing is good for nothing.
Ne sutor ultra crepidam. Let not the shoemaker go beyond his last.
Nisi Dominus frustra. Unless the Lord assist you, all your efforts are in vain.
Noscitur ex sociis. He is known by his companions.
Nota Bene (N. B.) Mark well.
Obiter dictum. A thing said by the way, or in passing.
Onus probandi. The weight of proof; the burden of proving.
O si sic omnia! Oh that he had always done, or spoken thus!
O tempora, O mores! Oh the times, oh the manners!
Otium cum dignitate. Ease with dignity.
Palmam qui meruit ferat. Let him who has won bear the palm.
Pari passu. By a similar gradation.
Par nobile fratrum. A noble pair of brothers.
Particeps criminis. An accomplice.
Passim. Every where.
Per fas et nefas. Through right and wrong.
Per se. By itself.
Poeta nascitur non fit. Nature, not study, m a poet.
Prima facie. On the first view, or appearanc
Primæ viæ. The first passages: the upper pa intestinal canal.
Primum mobile. The main spring; the first
Principiis obsta. Oppose the first appearance
Pro aris et focis. For our altars and firesides.
Pro bono publico. For the public good.
Pro et con. For and against.
Pro re nata. For a special business.
Pro tempore. For the time.
Quid nunc? What now?—Applied to a news
Quid pro quo. What for what; tit for tat.
Quoad hoc. To this extent.
Quod erat demonstrandum. Which was mea shown.
Rara avis in terris, nigroque simillima cygno. bird in the earth—very like a black swan.
Reductio ad absurdum. A reducing to an abs
Re infecta. Without attaining his end.
Requiescat in pace. May he rest in peace.
Res angusta domi. Narrow circumstances at
Respice finem. Look to the end.
Seriatim. In order.
Sic itur ad astra. Such is the way to immorta
Sic passim. So every where.
Sic transit gloria mundi. Thus the glory of th passes away.
Sine die. To an indefinite time.
Sine qua non. An indispensable condition.
Status quo ante bellum. The state in which be ties were before the war.
Suaviter in modo, fortiter in re. Gentle in the m but vigorous in the deed.
Sub silentio. In silence.
Summum bonum. The chief good.
Suum cuique. Let every man have his own.
Tabula rasa. A smoothed tablet.
Tempora mutantur, et nos mutamur in illis. Th change, and we change with them.
Toties quoties. As often as.
Ubi supra. Where above mentioned.
Vade mecum. Go with me: a constant compa (Usually applied to a pocket-book).
Veluti in speculum. As if in a mirror.
Veni, vidi, vici. I came, I saw, I conquered.
Vis inertiæ. Force or property of inanimate ma
Versus (v.) Against.
Vice versa. The terms or cases being changed.
Vi et armis. By main force.
Viva voce. By or with the living or loud voic
Viz. (videlicet.) Namely.
Vox et præterea nihil. A voice and nothing m
Vox populi, vox Dei. The voice of the people voice of God.

END OF THE FIRST VOLUME.

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